

what to expect on the isee

## **Lower Level**

for applicants to Grades 5 and 6

The only authorized guide produced by ERB. If you have any questions, please contact ISEE Operations:



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# WHAT TO EXPECT ON THE ISEE

# A PREPARATION BOOK FOR STUDENTS AND THEIR PARENTS

Lower Level





### Dear Student,

You are probably going to be taking the Independent School Entrance Exam (ISEE) sometime soon, and we hope that this book will help you in preparing for this experience.

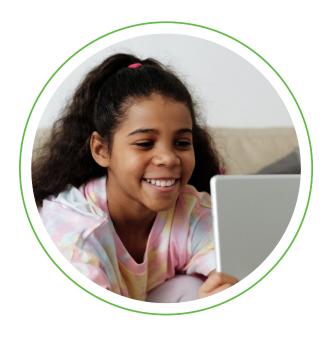
This book is intended to help you become familiar with the ISEE. The questions that you will see in the "Sample Test Questions" and the "Practice Test" sections are not the same questions that you will find on the real test, but they are similar to those questions and have been written by the same people who wrote the actual ISEE. You will also have a chance to become familiar with the exact directions on the test. Even the answer sheets we have included are the same!

Please be sure to read the test directions section and the explanation of your score report section, since the ISEE may be different from other tests you have taken in the past.

We hope that after spending some time with this book, you will know more about what to expect on your test day and feel comfortable with the types of questions, the directions, and the answer sheet on the ISEE. We wish you and your family the best of luck as you embark on this exciting educational adventure.

With warm regards,

The ISEE Staff



**Prepare for Success on the ISEE** 

For students interested in a comprehensive ISEE preparation program, visit **iseepracticetest.com** to find out why more than 130,000 people have prepared for exams online with Test Innovators. Test Innovators offers multiple program options, including a FREE trial version, all of which include at least one sample ISEE practice test, instant scoring, personalized feedback, and more. Some of the other benefits of Test Innovators preparation programs include:

- Online test portal
- Score report
- Interactive diagnostics
- Printable version
- Personalized Prep Plan
- Tutor consultation

Learn more about ISEE preparation programs at <u>iseepractice.test.com</u>.

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# INTRODUCTION TO THE



## LOWER LEVEL

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### **Background Information**

### What Is the ISEE?

The Independent School Entrance Exam (ISEE) is an admission test developed by the Educational Records Bureau (ERB) for its member schools as part of their admission process. The ISEE was created by Measurement Incorporated, Durham, NC, and ERB, with assistance from faculty of ERB member schools.

The current edition has been updated to include educational assessment best practices and to align with national standards in English and mathematics as articulated in standards adopted by the National Council of Teachers of English (NCTE) and the National Council of Teachers of Mathematics (NCTM). Nearly two-thirds of the questions on the ISEE were developed by ERB-member faculty and administrators from a cross section of independent schools across the United States under the direction of test development specialists at Measurement Incorporated.

The ISEE is the admission test of choice for many independent schools throughout the country and abroad. Test sites are available in numerous cities during the admission testing season. The ISEE consists of five sections at three levels designed to measure the verbal and quantitative reasoning and achievement of students in grades 4–11 seeking admission to grades 5–12 in independent schools. Students seeking admission to grades 5 or 6 take the Lower Level; students seeking admission to grades 7 or 8 take the Middle Level; and students seeking admission to grades 9–12 take the Upper Level.

Students may register to take the ISEE up to three times in a 12-month admission cycle, once in any or all of the three testing seasons. The seasons are Fall (August–November), Winter (December–March), and Spring/Summer (April–July). ISEE does not encourage multiple testing, but we do offer students and families that option.

The five sections that make up the ISEE are (in order of testing): **Verbal Reasoning, Quantitative Reasoning, Reading Comprehension, Mathematics Achievement**, and an **Essay** which is written by the student in response to a given writing prompt. Each section is designed to tap into a unique aspect of a student's preparation for academic work.

The first four sections consist entirely of multiple-choice questions. Results are reported in percentile ranks; that is, each student's performance is measured against a norm group made up of students applying to independent schools in the same grade who have tested over the past three years. The essay is not scored but sent directly to the school(s) to which the student has applied, along with the score report.

### **How Does a Student Arrange to Take the ISEE?**

Students may take the ISEE in one of the following ways:

1. The ISEE is given by consortia of schools in cities throughout the United States where schools have joined together and have chosen to use a common entrance test program.

- 2. The ISEE is given at individual school test sites at a wide variety of schools throughout the country and abroad and on a number of test dates.
- 3. The ISEE offers a variety of testing options. We are pleased to offer the ISEE in both a paper-pencil and an online format at ISEE test site schools, ISEE testing offices, and Prometric Test Centers.

Complete registration information may be found in the *ISEE Student Guide*, which is updated each year and is available from the independent schools who administer the test. For online registration information, visit <a href="https://www.iseetest.org">www.iseetest.org</a>.

### What Types of Questions Are on the ISEE?

The first four sections are composed of multiple-choice questions. The fifth section, the essay, is not scored but requires the student to respond to a preselected writing prompt.

The first two sections, **Verbal Reasoning** and **Quantitative Reasoning**, measure the applicant's reasoning ability.

• The Verbal Reasoning test consists of two types of items: vocabulary and sentence completion.

Each vocabulary item consists of an abstract, grade-level appropriate word followed by four potential answer choices. Each sentence completion item consists of a sentence with one word or phrase missing followed by four potential answer choices. A student must select the word or phrase that most appropriately completes the context of the sentence.

• At the Lower Level, the **Quantitative Reasoning** test consists of word problems.

The word problems differ somewhat from traditional mathematics achievement items in that some of them require either no calculation or simple calculation.

The next two sections, **Reading Comprehension** and **Mathematics Achievement**, measure the applicant's ability to correctly answer curriculum-based concepts that are appropriate at that grade level according to curriculum standards adopted by the National Council of Teachers of English and the National Council of Teachers of Mathematics.

• In order to determine a student's reading comprehension skills, in the **Reading Comprehension** section, the student is asked to read a passage and then answer items specific to that passage.

The five passages in this section are age-appropriate and length-appropriate. Each passage is especially written to contain contemporary information and to be of high interest to students in upper elementary grades. The passages cover a variety of subject areas including arts, contemporary life, history, and science.

• Mathematics Achievement items conform to national mathematics standards and ask the student to identify the problem and find a solution to a problem. The items require one or more steps in calculating the answer.

The **Essay** is written by the student in response to a writing "prompt" or topic that is grade-level appropriate. The prompts rotate throughout the testing season. They are designed to prompt a student to write an informed essay on a particular topic. As is true of the passages in the **Reading Comprehension** section, these prompts have been written for a contemporary feel and a high level of interest to current students. Each prompt is free of bias, global in scope, and representative of a wide variety of subjects. Each one is one or two sentences long and asks students to respond to the situation described. Prompts may relate to the student, to the student's community, or to the world in general.

ERB does not score the written essay. They send a copy of the essay to the school(s) designated in the ISEE registration along with the scores for the rest of the test. They do not send a copy of the essay to the parents.

### **Information for Students**

### Why Is the ISEE Required?

The school you are applying to has requested ISEE scores as part of the overall admissions process. By requiring an admission test for all students entering the same grade, the school can view one common item of all applicants. The school looks at many items in conjunction with the ISEE scores, including your application, your current school records, and possibly an interview. All components of the admission process, including the ISEE scores, help the school, you, and your family determine the best school match for you.

### What Happens to My Scores?

After you take the ISEE, the test site will send your answers to the ISEE Operations Office for scoring of the four multiple-choice sections and production of the Individual Student Report (ISR). The ISR is posted to your family's account right after scoring and an email is then sent to notify your family that this has taken place. The essay, which is not scored and not released to the family, is released online (with the ISR) to ERB member schools. School reports do not list any recipients other than the individual school receiving the report.

### **How Will This Book Help Me?**

Unlike other ISEE test preparation materials, this book was written by the same people who developed the ISEE. The sample questions and practice test questions in this book include actual questions from previous versions of the ISEE. Use this book to

- see what the ISEE looks like and how it is structured;
- read sample questions and answers with an explanation of each correct answer choice;
- read the exact directions that you will be given when you take the ISEE;
- take a practice test that has questions like those on the real ISEE; and
- use an answer sheet like the one you will use when you take the ISEE.

We hope that working through this book will make you feel even more confident and prepared when you take the ISEE because you will know what to expect.

### **Information for Adults**

### How This Book Can Help Your Student Prepare for the ISEE

The information in this book offers your student an opportunity to become familiar with all aspects of the ISEE. It is particularly helpful because the sample questions and practice test questions were either chosen from previous editions of the ISEE or were written by ERB-member school faculty and administrators and by experts in test development. Using this book will allow your student to

- read and answer sample questions, check for the correct answers, and then read the explanations for why the answers are correct;
- take a practice test that contains questions similar to those on the actual ISEE, see a sample answer sheet that is like the answer sheet on the real test, and read the actual directions he or she will receive on the day of the test; and
- score the practice test and compare that score with those of other students who took the actual ISEE.

### How You Can Help Your Student Prepare for the ISEE

There are specific ways you may help prepare your student, not only for the ISEE, but for other standardized tests as well.

- Show confidence in your student's ability to do well on the ISEE.
- Remind your student that the ISEE is just one piece of information a school will use in its admission process.
- Mark the test date on your calendar so that both you and your student are aware of the date.
- Make sure that your student gets a good night's sleep before the test.
- Make sure that your student eats a healthy breakfast before the test.
- Encourage your student to read as part of his or her daily routine. By reading new materials, your student will be exposed to new concepts and vocabulary.

### **Reminders for Your Student**

Remind your student to employ the following helpful strategies when answering multiple-choice questions.

- Read the entire question before attempting to answer it.
- Try to answer the question without looking at the choices. Then, look at the choices to see if your answer is the same as, or close to, one of the choices. Wherever possible, answer choices on this test are arranged alphabetically, numerically, or by length of the answer to help the student locate the correct answer more quickly.
- Next, eliminate answers you know are not correct.
- Finally, choose the correct answer. If necessary, make an educated guess from the remaining choices, since there is no penalty for incorrect responses.

### **Frequently Asked Questions**

### Q: Which level of the ISEE does my student take?

- **A:** There are three levels of the ISEE.
  - Students currently in grades 4 and 5 (applicants to grades 5 or 6) take the Lower Level.
  - Students currently in grades 6 and 7 (applicants to grades 7 or 8) take the Middle Level.
  - Students currently in grades 8 and above (applicants to grades 9–12) take the Upper Level.

### Q: Are there multiple versions of the ISEE?

A: At each of the three levels, there are several different, but equivalent, forms. The specific forms to be used each year will be determined in advance by ERB. These forms are randomly assigned to the students and are statistically equivalent, regardless of which form was actually taken by the student.

### **Q:** How is the ISEE structured?

- **A:** Each level and each form of the ISEE has five sections. The sections are administered in the following order:
  - Verbal Reasoning
  - Quantitative Reasoning
  - Reading Comprehension
  - Mathematics Achievement
  - Essay

The sections and the essay are explained more fully in the next part of this book.

### Q: What can my student expect at the test site on the day of the test?

A: Students will present their verification letter or identification to be checked in upon arrival. So that your child may concentrate on doing his or her best on the ISEE, schools do not conduct admission activities or highlight their schools on the day of testing. We know that testing may be stressful for some students; therefore, the test administrators are teachers or other school personnel who teach or interact with children on a daily basis. Although test administrators may not discuss test questions during the test, they give clear test directions, and your child is encouraged to ask for clarification, if necessary, before beginning each section of the test.

### Q: What types of questions are on the ISEE?

A: The Verbal Reasoning, Quantitative Reasoning, Reading Comprehension, and Math Achievement sections contain only multiple-choice questions. Each question has four choices. Only one answer is the correct or "best" answer. The Essay section requires the student to write an essay in response to a prompt. There are over one hundred writing prompts (topics) that have been developed for each level of the ISEE. A different topic is selected by ERB for each test administration throughout the year.

### Q: How much time will be allotted for each section of the actual Lower Level ISEE?

A:

# TIME ALLOTTED FOR EACH SECTION ON THE ACTUAL LOWER LEVEL ISEE

Section	Number of Questions	Time Allotted (in minutes)
Verbal Reasoning	34	20
Quantitative Reasoning	38	35
Reading Comprehension	25	25
Mathematics Achievement	30	30
Essay		30
	Total Time	140

Each section of the ISEE (excluding the essay) contains several questions that will not be scored but may be used on future editions of the ISEE.

### Q: Are there any scheduled breaks during the test?

**A:** There are two breaks—one following the Quantitative Reasoning section and another following the Math Achievement section. Each break is five to ten minutes long.

# Q: I am confused by these acronyms: ERB, ISEE, CTP. Didn't my student take one of these already this year?

A: The Educational Records Bureau (ERB) oversees both the Independent School Entrance Exam (ISEE) and the Comprehensive Testing Program (CTP). The ISEE is a test designed to help admission directors at selected public and independent schools decide who will be accepted for admission to their schools, while the CTP is a battery of tests designed to collect information about student achievement for students currently enrolled in grades 1–10.

Both the ISEE and the CTP test student abilities in Verbal Reasoning, Reading Comprehension, Quantitative Reasoning, and Mathematics. They also contain similar types of items. Therefore, it is quite possible that your student may be somewhat familiar with the types of questions on the ISEE if he or she has previously taken the CTP. However, it is important to note that there is no repeat of specific items between the two tests. The ISEE is unique in that it is used for admission purposes only and its norms are based only on applicants to independent schools.

- Q: Are there other books or programs that might help my student improve on the ISEE?
- **A:** This is the only book approved by ERB. It was written in conjunction with the test developer, Measurement Incorporated. This book contains current and accurate information.

Since this book was written by the developer of the actual test, the sample questions and practice test questions were chosen to accurately reflect the format and the kinds of content your student will see on the actual ISEE. You may see programs or materials advertised that claim to help; however, none of them are approved by ERB, nor can they claim the intimate knowledge of the actual test questions used on this edition.

- Q: What materials does my student need to bring to the actual ISEE?
- **A:** For paper testing only, students should bring four #2 pencils and two pens with either blue or black ink. Students may choose to use erasable ink.
- Q: Are there materials that my student is prohibited from using during the ISEE?
- A: Most materials other than writing implements are prohibited. Specifically, scratch paper, calculators, calculator watches, rulers, protractors, compasses, dictionaries, and thesauruses are NOT permitted during the actual test.

Cell phones and other electronic devices (iPods, MP3s, beepers, etc.) are not permitted at the test site and must not be brought into the testing room. If a student uses any of these items during the exam, his or her exam will be invalidated. Since students are not permitted to use these devices on the actual test, it is recommended that they avoid using them when they answer the sample test questions or take the practice test. A certain number of these restrictions may be waived for students who receive testing accommodations due to documented disabilities.

- Q: Are testing accommodations made if my student requires them?
- **A:** Accommodations may be made for students with documented learning differences or physical challenges. Accommodation use in school and supporting documentation of the disability are required. For more information, please go to www.iseetest.org and click on "Accommodations."

### Q: Will my student be penalized for a wrong answer? Is it appropriate to guess?

A: Scores are based on the number of correct answers. If the student can eliminate at least one of the choices, he or she should make an educated guess from the choices that remain. A wrong answer and an omitted answer count the same. However, it is better to move ahead to the next item and return to the puzzling one later. No student is expected to answer all questions correctly.

### Q: How is my student compared to other students taking the ISEE?

A: Your student is compared only to other independent school applicants who tested for the same grade during the past three years. Your student is not compared to students applying to a different grade who are taking the same level of the test. The percentile ranking on the score report shows how your student scored in comparison to the other students applying to the same grade. The group of students who take the ISEE—the ISEE norming population—is a very select group of students who are applying to competitive schools. Therefore, ISEE percentile ranks are generally lower—anywhere from 10 to 40 percentile points lower—than those on other tests that use national norms. The schools that use the ISEE are familiar with ISEE scores and the group of students taking the ISEE. You may wish to check with the school(s) to which you are applying to learn the range of ISEE scores expected for applicants to their school(s).

### Q: How soon will I receive my student's scores?

A: After paper testing, schools send the ISEE answer sheets and essays to the ISEE Operations Office for production of an Individual Student Report (ISR). Scoring takes place on Monday, Wednesday, and Friday. The ISR is posted to a family's online account right after scoring and an email is then sent to notify the family that this has taken place. Copies of the ISR are also posted for ERB schools and consultants, only if the family has listed them as recipients. The essay, which is not scored and is released only to ERB schools, accompanies the ISR. Score reports to schools do not list any other school recipients.

For online ISEE testing at a school or Prometric site, score reports will post online 3–5 days after the exam. A notification will be emailed to let you know the report is ready. A hard copy will not be sent to the home address.

### Q: What is the raw score?

A: A raw score represents the number correct. If a student got 23 items correct—say on a test of 40 questions—then the raw score is simply 23.

### O: What does the scaled score mean?

A: A scaled score is a raw score that has been converted to a different numerical scale, e.g., 200–800. The raw score scale ranges from 0–maximum score, while the scaled score range consists of higher numbers with a somewhat arbitrary minimum and maximum score.

### Q: To whom is my student being compared on his or her score report?

A: As stated previously, your student is compared only to other independent school applicants who have applied to the same grade during the past three years. There is no comparison specifically to other students who took the test at the same test site or to other applicants who tested on the same day.

### Q: What is a "good" percentile score?

A: The notion of "good" is relative and may only be defined by the specific school. Please check with them for more information on how each plans to use the scores from the ISEE in their admission process.

### O: What is a stanine?

A: A stanine score is simply another scale and is based on percentile ranks. Percentile ranks range from 1–99, while stanines range from 1–9. In general, a stanine score of 1–3 is below average, 4–6 is average, and 7–9 is above average.

Percentile Rank	Stanine
1–3	1
4–10	2
11–22	3
23–39	4
40–59	5
60–76	6
77–88	7
89–95	8
96–99	9

### Q: Are my student's scores good?

A: Each school uses the scores on the ISEE as part of the total application process and according to its own criteria. Thus, there is no way to determine a "good" or "bad" score. Each school will use several pieces of information about your student as it evaluates his or her application. These may include the student's academic record (report card, transcript, etc.), teacher recommendation(s), notes from a personal interview, and extracurricular activities and interests.

### Q: How will I know if my student passed or failed?

A: Students do not pass or fail the ISEE. There is no cutoff point that determines pass/fail status or divides students into these two groups. There is no cutoff (or pass/fail) score recommended by ERB.

### Q: What are the schools looking for?

A: Each independent school determines who is admitted based on a variety of criteria. Each school usually has a range of scores that, from experience, indicates if an applicant is likely to be a good fit at the school. Check with the schools to which your student is applying for more information. Remember, there are many pieces of information used in selecting applicants, and your student's score on the ISEE is only one of these.

### Q: How does the ISEE compare with other tests?

**A:** Each standardized test has its own characteristics. There is no available formal comparison between the ISEE and other national tests such as the Iowa Test of Basic Skills, the Stanford 9, or other similar testing instruments.

### Q: How is the essay scored?

A: The essay, which is not scored and not released to the parent, is released online (with the ISR) to ERB members. Evaluation is based on each individual school's criteria.

# SAMPLE TEST QUESTIONS AND ESSAY



LOWER LEVEL

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### **Verbal Reasoning**

(Section 1)

The ISEE has a **Verbal Reasoning** section that is composed of two different kinds of questions: synonyms and sentence completions. Both kinds of questions test your vocabulary and reasoning ability.

**Synonym** questions focus on word recognition, since the correct answer choices are those that have the same meaning or are closest in meaning to the word in the question. Synonyms also test your ability to reason, because you must choose the word that is closest in meaning to the word in the question from among four answer choices.

**Strategy:** Since the answer choices are listed in alphabetical order, think of a word that first comes to mind when you read the synonym and then look for it (or a word like it) in the list.

**Sentence completion** questions measure your ability to understand words and their function. Correct answers are based on clues that appear in the context of the sentence. In the Lower Level ISEE, the sentence completion answer choices are words or short phrases that logically complete a sentence.

### Strategies:

- Read each sentence to get the overall meaning.
- Focus on key words or clue words in the question to help you determine the correct answer.
- Mentally fill in the blank with your own answer and then find the answer choice that is closest in meaning to your own answer.
- Remember that there is almost always a word or phrase that obviously points to the correct answer.
- Use word clues such as *although*, *because*, *if*, *since*, or *therefore* to help you figure out the relationships in the sentence.
- After you choose your answer, go back and reread the whole sentence to be sure that it makes sense.

### **Synonyms**

### Students should be able to

- recognize many of the vocabulary words found on elementary and middle school graded word lists; and
- select the word from the answer choices that is closest in meaning to the word in question.

### Sample Questions

<u>Directions</u>: Answer the following sample questions by selecting the word that is most nearly the same in meaning as the word in capital letters. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

### 1. TASK

- (A) chore
- (B) debt
- (C) dream
- (D) fight

### 2. HARDSHIP

- (A) anger
- (B) difficulty
- (C) disrespect
- (D) selfishness

### 3. PERPLEXED

- (A) alarmed
- (B) disgraced
- (C) embarrassed
- (D) puzzled

### Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 ABCD
- 3 ABCD

### Answers to Sample Questions

### 1. TASK

You are to select the answer choice that is closest in meaning to the word "task." "Task" is a noun that means a definite piece of work, an assignment, or a duty. Debt is not a task, and the other two answer choices (dream and fight) reflect choices of how you might spend your time. Answer choice (A), chore, is the only choice that is related to completing a duty, assignment, or piece of work and is therefore the correct answer, since it is the only choice that is a synonym for "task."

### 2. HARDSHIP

"Hardship" is a noun that has several related meanings such as discomfort, distress, catastrophe, or disaster. A hardship may cause suffering or require extra effort to achieve a goal (as in "The earthquake victims suffered great *hardship* when they lost all their possessions."). Choice **(B)**, **difficulty**, is the correct answer because it is the only answer choice that expresses one of these meanings.

### 3. PERPLEXED

"Perplexed" means confused or filled with uncertainty (as in "Susan was *perplexed* when she could not find her sweater where she thought she had left it."). Choice **(D)**, **puzzled**, is the correct answer.

### **Sentence Completion**

### Students should be able to

• use context clues to select the word or phrase that correctly completes the sentence.

### Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the word or phrase that most correctly completes the sentence. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

**Note**: To assist you in finding the right answer among the answer choices, one-word answers are listed alphabetically, and phrases are ordered by length.

- 1. Because they may not have access to immediate medical attention, hikers in Arizona desert areas must be careful to avoid scorpions, Gila monsters, rattlesnakes, and other ----- creatures.
  - (A) graceful
  - (B) hideous
  - (C) poisonous
  - (D) unusual
- 2. The best-selling author dedicated his new book to his wife to ----- the contribution she had made to his success.
  - (A) acknowledge
  - (B) approximate
  - (C) donate
  - (D) fathom
- 3. Unlike Maria, who was always early to class, Kristen -----.
  - (A) often arrived after the tardy bell had rung
  - (B) sometimes brought her lunch in her backpack
  - (C) usually turned in her homework before it was due
  - (D) generally walked to school instead of riding the bus

### Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 ABCD
- 3 (A) (B) (C) (D)

### Answers to Sample Questions

- 1. Your task here is to use context clues to select a word that describes a list of animals. You are told that hikers avoid these animals because medical help may be difficult to find in the desert. Since being bitten by a poisonous animal may require one to seek medical attention, choice (C), poisonous, is the correct response. The other answer choices do not logically complete the thought expressed in the sentence.
- 2. This question asks you to select the word that best describes the reason the author dedicated his new book to his wife. He wants her contribution to his success to be recognized; therefore, answer choice (A), acknowledge, is the correct response.
- 3. Your task in this question is slightly different from your task in the previous questions. Instead of looking for a single word, you are looking for a whole phrase that is the logical conclusion to the information presented in the first part of the sentence. The word "unlike" suggests that Kristen's actions will be opposite those of Maria. If Maria is always early to class, then it logically follows that Kristen is usually late. Therefore, choice (A), often arrived after the tardy bell had rung, is the correct response.

### **Quantitative Reasoning**

(Section 2)

**Quantitative Reasoning** is one of two math sections on the ISEE. This section is designed to show how your reasoning skills have developed. It tests your ability to use your understanding of mathematics to develop your own opinions about how to solve math problems. It does not test the amount of math you have learned, but how well you think mathematically. Quantitative Reasoning problems require little or no calculations; the emphasis is on your ability to reason mathematically. You may be asked to

- estimate numerical values;
- employ logic to determine what a particular problem is about;
- compare and contrast quantities;
- analyze and interpret data;
- analyze, compare, predict, draw conclusions, and summarize graphs;
- use reason to calculate the probability of events;
- understand concepts and applications of measurements; and
- know how to arrive at statistical solutions to problems that are given.

All questions found in the two math sections of the ISEE are linked to the National Council of Teachers of Mathematics (NCTM) Standards. The ISEE uses the following NCTM strands as a basis for the Quantitative Reasoning section:

- Numbers and Operations
- Algebra
- Geometry
- Measurement
- Data Analysis and Probability
- Problem Solving

In the Quantitative Reasoning section of the Individual Student Report (ISR), these strands are NOT identified. However, to help you best prepare for this section of the ISEE, the answers to the practice test questions are identified by the NCTM standards. For more information on these strands, visit the NCTM Web site at www.nctm.org.

### Strategies:

- Read the question and determine exactly what you are being asked to find.
- Determine what information is relevant and what is irrelevant.
- Cross out the irrelevant information in your test booklet.
- Next, ask yourself, "What steps do I need to use to find the answer?" and "Can I do this by estimating and not by actual calculations?"
- Make a best guess at the correct answer, then look to see if that answer is given.

  Note: On the ISEE, all answer choices are listed in sequential order from greatest to least, or least to greatest.
- Next, eliminate all answer choices that are not reasonable.
- Since there is no penalty for guessing, choose the answer that seems most reasonable.

Remember, there is only one correct answer for each question. The answer choices often represent common mistakes or misconceptions, but they are not intended to trick you. You may write in the test book.

### **Numbers and Operations**

Students should be able to

- understand numbers and ways of representing numbers; and
- use all four mathematical operations (add, subtract, multiply, divide) accurately.

Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that best illustrates numbers and operations. Darken the circle for your answer choice in the sample answer sheet at the bottom of the next page. After you finish answering the questions, turn the page and evaluate your answers.

- 1. Alyssa is ordering T-shirts for all the students in her school. She knows how many students are in the school, and she knows how many shirts come in a box. How would she figure out how many boxes (*b*) to order?
  - (A) b = the number of boxes  $\times$  the number of shirts per box
  - (B) b =the number of boxes + the number of shirts per box
  - (C) b =the number of students  $\div$  the number of shirts per box
  - (D) b = the number of students the number of shirts per box
- 2. Which diagram represents the distributive property?

(A) 
$$\square$$
 +  $\bigcirc$  =  $\square$  +  $\bigcirc$ 

(B) 
$$\bigwedge \times \square = \square \times \bigwedge$$

(C) 
$$\bigwedge$$
  $\left(\bigcirc + \bigcirc\right) = \bigwedge \times \bigcirc \times \bigcirc$ 

$$(D) \ \bigtriangleup \ \left(\bigcirc + \bigsqcup\right) = \left(\bigtriangleup \times \bigcirc\right) + \left(\bigtriangleup \times \bigsqcup\right)$$

3. The table shows items that Julie bought at the grocery store. She bought at least one of each item on the list.

**GROCERY LIST** 

Item	Price for One	Total Cost for Item
loaf of bread	\$1.25	\$2.50
gallon of milk	\$4.75	\$4.75
carton of eggs	\$1.50	\$1.50
bag of cookies	\$2.50	?

If Julie spent a total of \$13.75, how much money did she spend just on cookies?

- (A) \$1.25
- (B) \$3.75
- (C) \$5.00
- (D) \$7.50

Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 ABCD
- 3 ABCD

### Answers to Sample Questions

### Sample Question 1:

The correct answer to the question is answer choice (C), b = the number of students  $\div$  the number of shirts per box.

One way the answer can be found is by recognizing that division takes the total (all students) and divides it into smaller numbers (the number of shirts in a box and the number of boxes to order).

### Sample Question 2:

The correct answer to the question is answer choice (D),

One way the answer can be found is by knowing that the distributive property confirms a relationship between multiplication and addition. For example, the expression 1(2+3) is the same as the expression  $(1 \times 2) + (1 \times 3)$ . Even when using objects to represent numbers, the same can be true of their relationship.

### Sample Question 3:

The correct answer to the question is answer choice (C), \$5.00.

One way the answer can be found is by

- 1. adding the total she spent on the other three items: (\$2.50 + \$4.75 + \$1.50) = \$8.75;
- 2. then determining how much Julie had left over to spend: \$13.75 \$8.75 = \$5.00 left;
- 3. confirming that 2 bags of cookies equal \$5.00:  $(2 \times \$2.50)$ ;
- 4. choosing answer (C), \$5.00.

### **Algebraic Concepts**

Students should be able to

• identify, extend, and find rules for patterns and relations.

### Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that most clearly illustrates the concepts asked for. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

- 1. At the hardware store, Jim bought 2 boxes of nails that cost \$6 each and a hammer. His total before tax was \$22. Which equation could be used to find the cost of the hammer (h)?
  - (A) 6 + h = \$22
  - (B) 6 + 2h = \$22
  - (C) 2(6) + h = \$22
  - (D) 2(6) + 2h = \$22
- 2. The total combined weight of a sphere, a pyramid, and a cube is 14 grams. If the sphere weighs the same as 2 pyramids and the cube weighs the same as 4 pyramids, how many grams does a pyramid weigh?
  - (A) 2 grams
  - (B) 4 grams
  - (C) 6 grams
  - (D) 8 grams

Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 (A) (B) (C) (D)

### Answers to Sample Questions

### Sample Question 1:

The correct answer to the question is answer choice (C), 2(6) + h = \$22.

One way the answer can be found is by

- recognizing the information given:
   (2 boxes of nails at \$6 each) + a hammer = \$22;
- 2. rethinking information as a math sentence (or equation):  $(2 \times \$6) + h = \$22$ .

### Sample Question 2:

The correct answer to the question is answer choice (A), 2 grams.

One way the answer can be found is by

- recognizing the information given:
   sphere + 1 pyramid + 1 cube = 14 grams
   pyramids) + 1 pyramid + (4 pyramids) = 14 grams;
- 2. adding all the pyramids together: 7 pyramids = 14 grams;
- 3. finding how much 1 pyramid weighs: 1 pyramid =  $14 \div 7 = 2$  grams.

### Geometry

Students should be able to

• identify, determine characteristics of, and describe geometric objects.

### Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that most clearly illustrates the relationships among the dimensional figures. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

- 1. In which pair of letters do both letters have an equal number of lines of symmetry?
  - $(A) \quad Z \quad \longmapsto \quad$
  - (B) \ \
  - (C) (C)
  - (D) \_
- 2. The points with coordinates (1, 1) (1, 5) (5, 5) (5, 1) are the vertices of a quadrilateral. If all four points are connected to form a quadrilateral, which term best describes the quadrilateral formed?
  - (A) kite
  - (B) pentagon
  - (C) square
  - (D) trapezoid

Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 (A) (B) (C) (D)

### Answers to Sample Questions

Samp	le Ou	estion	1:
~ *****			

The correct answer to the question is answer choice  $(\mathbf{D})$ ,  $\square$ .

One way the answer can be found is by

- 1. knowing that symmetry means that a figure can be folded in half so that the two halves match (the fold line being the line of symmetry); and
- 2. recognizing how many fold lines, or lines of symmetry, each letter has.
  - Letters E and C both have one line of symmetry (a horizontal fold line across the center of the letter).
  - Letter Z has zero, and H has two lines of symmetry.
  - Letter N has zero, and A has one line of symmetry.
  - Letter O has an infinite number of lines, and K only has one line of symmetry.

### Sample Question 2:

The correct answer to the question is answer choice (C), square.

One way the answer can be found is by

- 1. recognizing that the coordinates of the four points given all begin and end with 1 or 5, a clue that the figure is a square; and
- 2. plotting the points on a coordinate grid, which will indicate a square is likely;

OR

noticing that the ordered pairs show that the distance between each pair is 4 units. You can see that the figure has four equal sides and four equal angles. The only figure that has these characteristics is a square.

#### Measurement

Students should be able to

• understand and determine measurable attributes of objects.

#### Sample Question

<u>Directions</u>: Answer the following sample question. Select the answer that best illustrates measurement rules. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the question, turn to the next page and evaluate your answer.

1. Figure 1 is a 5-inch square. Four 2-inch squares are removed from each of the four corners of Figure 1.

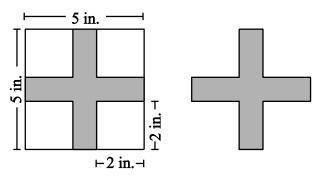


Figure 1 Figure 2

What is the area of the remainder of Figure 1, as shown in Figure 2?

- (A)  $6 \text{ in.}^2$
- (B)  $9 \text{ in.}^2$
- (C)  $21 \text{ in.}^2$
- (D)  $25 \text{ in.}^2$

Sample Answer Sheet: Darken the correct answer for this item.

1 ABCD

#### Answer to Sample Question

The correct answer to the question is answer choice (B), 9 in.<sup>2</sup>.

One way the answer can be found is by

- 1. understanding that the task is to determine the area of a  $5 \times 5$ -inch square after four corners are removed;
- 2. finding the area of the whole  $5 \times 5$ -inch square by using  $A = l \times w$ ;  $5 \times 5 = 25$  in.<sup>2</sup>;
- 3. finding the area of one  $2 \times 2$  corner by using  $A = l \times w$ ;  $2 \times 2 = 4$  in.<sup>2</sup>;
- 4. finding the area of all four corners: 4 corners  $\times$  4 in.<sup>2</sup> = 16 in.<sup>2</sup>; and
- 5. finding the area of the  $5 \times 5$ -inch square after the four  $2 \times 2$  corners are removed:  $25 \text{ in.}^2 16 \text{ in.}^2 = 9 \text{ in.}^2$ .

#### **Data Analysis and Probability**

#### Students should be able to

- collect, display, interpret, and make predictions about a set of data;
- find the probability of a simple event.

#### Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that best illustrates the use of data analysis and probability. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

- 1. Mrs. Brown's box of 24 assorted markers contains 2 red, 3 blue, 4 green, 6 yellow, 4 pink, and 5 purple markers. If she randomly selects a marker without looking, which color has a 1 out of 8 chance of being selected?
  - (A) red
  - (B) blue
  - (C) pink
  - (D) yellow
- 2. Stephen's class spent time at the City Zoo collecting data about animals and their habitats. The students had to list, in categories or groups, what they observed.

#### STEPHEN'S OBSERVATION LIST

- 1. kinds of animals at the zoo: lions, monkeys, snakes, pandas, alligators
- 2. ?
- 3. colors of the animals at the zoo: yellow, brown, red and brown, black and white, green

Which information completes Stephen's observation list?

- (A) ages of animals at the zoo
- (B) number of animals at the zoo
- (C) food that the animals at the zoo eat
- (D) dimensions of the animal cages at the zoo

#### Sample Answer Sheet: Darken the correct answer for each item.

- 1 (A) (B) (C) (D)
- 2 (A) (B) (C) (D)

#### Answers to Sample Items

#### Sample Question 1:

The correct answer to the question is answer choice (B), blue.

One way the answer can be found is by

1. finding the probability of each marker:

```
red – 2 out of 24;
blue – 3 out of 24;
green – 4 out of 24;
yellow – 6 out of 24;
pink – 4 out of 24;
purple – 5 out of 24;
```

2. changing the probabilities to their simplest form until you find a match:

```
red -2 out of 24 = 1 out of 12;

blue -3 out of 24 = 1 out of 8 (correct answer);

green -4 out of 24 = 1 out of 6;

yellow -6 out of 24 = 1 out of 4;

pink -4 out of 24 = 1 out of 6;

purple -5 out of 24 is in its simplest form.
```

#### Sample Question 2:

The correct answer to the question is answer choice (C), food that the animals at the zoo eat.

One way the answer can be found is by

- 1. recognizing the clue given in the problem, "in categories or groups";
- 2. eliminating choices that do not fit the clue. Choices A, B, and D are all numerical data, not categorical data.

## **Reading Comprehension**

(Section 3)

The actual Lower Level **Reading Comprehension** section contains five reading passages; the practice test in this book contains four passages. The passages include topics related to history, science, literature, and contemporary life. Some questions ask you to find a phrase or word in the passage; therefore, all passages show line numbers in the left margin. Each passage is followed by five questions about the passage.

*Strategy:* Read the passage first to get an overall view. As you read the passage, ask yourself, "What is the main idea? What facts and details are given?" As you answer the questions following the passage, use the line numbers to help you find the section or lines you may need to look at again.

A sample passage and questions may be found on the next two pages. The types of questions you may be asked focus on six categories:

- The *Main Idea* items assess the student's ability to look for an overall message, theme, or central idea in the passage.
- The *Supporting Ideas* items assess the student's ability to identify explicit ideas that support the main idea.
- *Inference* items ask the student to draw a conclusion from content not explicitly stated in the text. Inference items may ask the student to compare and contrast ideas, interpret or analyze text, and/or predict subsequent events or outcomes.
- *Vocabulary* items deal with word definitions within the context of the passage, usually in the form of "most nearly means."
- *Organization/Logic* items ask students to identify the sequence, pattern, relationship, structure, or summary of the passage.
- *Tone/Style/Figurative Language* items assess the student's understanding of mood, tone, point of view, and figurative language such as images, irony, and personification.

#### Sample Passage

The sample passage is followed by five questions based on its content.

"If a man walking in the fields finds any 1 four-leafed grass, he shall in a small while after 2 find some good thing." 3 Sir John Melton, writing around 1620, 4 reinforced a longtime folk belief. Then and 5 now, many people think that four-leaf clovers bring good luck. Wealth, health, love, and adventure are supposed to follow the discovery 8 of that tiny plant. Some people press and dry four-leaf clovers as keepsakes. Children have 10 whiled away countless hours in the grass, searching for this rarity. 12 13

For many people, the clover signifies faith, hope, love, and luck. Others associate it with a song: "I'm Looking Over a Four-Leaf Clover."

The lyrics and familiar tune were written in 1927 by Mort Dixon and Harry Woods. All the associations with the four-leaf clover are cheerful ones.

How common are four-leaf clovers? As natural mutations, they are rare. About one in ten thousand clovers will have four leaves.

- 23 Some scientists have tried to engineer them.
- 24 That effort, however, displeases some believers
- 25 who feel that an artificial four-leaf clover
- 26 probably does not carry the same gift of luck.
- 27 Nor do other plants that resemble four-leaf
- 28 clovers. Oxalis deppei is the most frequent
- 29 imposter that the person searching for four-leaf
- 30 clovers will find. When in doubt, how can a
- 31 person identify a real one? A genuine four-leaf
- 32 clover's fourth leaf is generally a bit smaller
- 33 than the other three.
- As of April 2005, George Kaminski held
- 35 the world record in finding four-leaf clovers.
- 36 According to the latest edition of the Guinness
- 37 Book of World Records, he now has 72,927.
- 38 Ed Martin has his heart set on toppling
- 39 Kaminski. A retired heavy-equipment operator
- 40 from Alaska, Martin tours the U.S. in a motor
- 41 home. His goal is collecting clovers. Let's wish
- 42 him good luck! Martin says the four-leaf
- 43 wonders have already brought him bunches
- 44 of it.

#### Sample Questions

<u>Directions</u>: Answer the questions on the basis of what is <u>stated</u> or <u>implied</u> in the passage. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

- 1. The main purpose of this passage is to
  - (A) compare four-leaf clovers to other similar plants.
  - (B) explain why George Kaminski collects four-leaf clovers.
  - (C) offer interesting information about four-leaf clovers.
  - (D) prove that four-leaf clovers bring good luck to people.
- 2. In line 29, "imposter" most nearly means
  - (A) example.
  - (B) fake.
  - (C) plant.
  - (D) souvenir.
- 3. According to the passage, both George Kaminski and Ed Martin
  - (A) live in Alaska.
  - (B) collect four-leaf clovers.
  - (C) tour the country in motor homes.
  - (D) write for the Guinness Book of World Records.

- 4. Sir John Melton clearly believed that four-leaf clovers
  - (A) last longer when dried and pressed.
  - (B) are excellent keepsakes for collectors.
  - (C) bring good luck to those who find them.
  - (D) provide hours of entertainment for children.
- 5. Which statement about the four-leaf clover is supported by information in the passage?
  - (A) It is larger than most other clovers.
  - (B) It is easy to find one in a grassy area.
  - (C) One of its leaves is smaller than the others.
  - (D) Usually lucky, they occasionally bring bad luck.

## Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 4 ABCD
- 2 ABCD
- 5 ABCD
- 3 ABCD

#### Answers to Sample Questions

The passage describes the four-leaf clover in terms of its appearance, the good luck that it is supposed to bring to its finder, its rarity in nature, and its value to two collectors.

- 1. This item asks you to determine the main purpose of the passage. Choice (C) is the correct answer because the passage is clearly written to **offer information** to the reader. Choice (A) is a supporting idea; choice (B) is information that is not provided in the passage; and choice (D) is incorrect because the passage does not provide any proof that four-leaf clovers bring luck; it just suggests it.
- 2. This item asks you to determine the meaning of the term "imposter" in line 29. This section of the passage describes plants that resemble four-leaf clovers but are not real four-leaf clovers. In lines 25, 26, and 27, there are words that provide clues to the meaning of "imposter." For example, in line 25 "artificial" points to choice (B), "fake" (something that is not real), which is the correct answer.
- 3. This item asks you to compare George Kaminski to Ed Martin and find one way they are alike. The answer is found in the last paragraph (lines 34–44), which describes both men as collectors of four-leaf clovers. Therefore, choice (B) is the correct answer.
- 4. The answer to this question is found in both the first and second paragraphs of the passage, specifically in lines 1–9. Because Sir John Melton clearly believed that four-leaf clovers bring good luck to those who find them, choice (C) is the correct answer. The other answer choices reference information found in the same area of the passage, but the information does not directly refer to Sir John Melton's quote.
- 5. Your task here is to find the answer in a statement that is supported by information in the passage. This means that your answer must come from information that you find in the passage. The correct answer is choice (C), which is found in lines 31–33. The other answer choices contain information that is clearly incorrect, but you would know that only if you have read the passage carefully.

#### **Mathematics Achievement**

(Section 4)

**Mathematics Achievement** tests mathematical skills you have learned from the very beginning of your school career. All questions in this section are aligned to the standards articulated by the NCTM. As with the questions in the Quantitative Reasoning section, this section will include questions from these NCTM standards:

- Number and Operations
- Algebra
- Geometry
- Measurement
- Data Analysis and Probability, and
- Problem Solving

For more information on these mathematical standards, visit <u>www.nctm.org</u>.

The Mathematics Achievement section will test your ability to identify and solve problems related to the NCTM standards in the six areas listed above. Specifically, the Mathematic Achievement questions have these characteristics:

- Unlike the Quantitative Reasoning section, you may need to do calculations to determine the correct answer for some questions.
- Answer choices may represent misconceptions or procedural errors (such as incorrect order of
  mathematical operations in a multi-step problem) but there are no trick questions or trick
  answers.
- Unlike the Quantitative Reasoning section, some items may require knowledge of mathematical terminology as indicated in the grade appropriate NCTM standards.
- Although conversions between units of measurement may be required to correctly answer the problem, students do not have to memorize conversions in the U.S. standard system (such as twelve inches equals one foot). If conversions within the U.S. standard system are required to find the correct answer to the question, they are given in the question.
- Common metric units will be found in some questions in this section, but conversions within the same unit for volume, length, mass, or temperature in the metric system are not provided (i.e., conversions between centimeters and meters).

You may not use a calculator or scratch paper. You may write in this book, since you may write in the test booklet when you take the ISEE.

#### Strategies:

- Read the entire question and study any related graphic images for each question before looking at the answer choices.
- Remember all four answer choices are logical answers—there are no answer choices such as "all of the above" or "none of the above."
- Next determine your answer and look for it in the answer choices provided.
  - o To save you time, all answers are listed in sequential order from greatest to least, or least to greatest unless the answer could be determined by using the ordered answers. (For example, a question which asks which number is the largest number would not have its answer choices ordered by value.)
- Remember to check your work, since often the answer choices represent common mathematical mistakes or procedural misconceptions.
- Some questions may be unfamiliar to you because you may not have yet covered that particular math concept at your current school. If you do not know the answer to the question, or if the answer you have determined is not listed as an answer choice, you may choose to make a mark in your test booklet (not your answer document), skip that question for now, and move on to the next question. Remember all questions on the ISEE have equal value. If you have time before the end of this test section, you may be able to come back to it later.

## **Numbers and Operations: Whole Numbers**

Students should be able to

- use all four math operations (add, subtract, multiply, divide) accurately;
- make reasonable estimations; and
- use properties of the numbers and operations.

Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that best illustrates numbers and operations. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

- 1. Which whole number is divisible by 9 without a remainder?
  - (A) 2,001
  - (B) 2,003
  - (C) 2,005
  - (D) 2,007
- 2. Which expression correctly uses the distributive property to solve  $15 \times (8 + 17)$ ?
  - (A)  $(15 \times 8) + 17$
  - (B)  $(17 \times 8) + 15$
  - (C)  $(15+8) \times (15+17)$
  - (D)  $(15 \times 8) + (15 \times 17)$

Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 (A) (B) (C) (D)

#### Answers to Sample Questions

#### Sample Question 1:

The correct answer to the question is answer choice (D), 2,007.

One way the answer can be found is by

- 1. knowing the divisible rule for 9, which states that if the sum of all the digits of a number can be divided by 9, then the number is divisible by 9; 2 + 0 + 0 + 7 = 9 and 9 is divisible by 9, so 2,007 is divisible by 9; or
- 2. dividing 2,007 by 9, which gives a value of 223 with no remainder. Having no remainder shows that 2,007 is divisible by 9.

#### Sample Question 2:

The correct answer to the question is answer choice (D),  $(15 \times 8) + (15 \times 17)$ .

One way the answer can be found is by knowing that the distributive property confirms a relationship between multiplication and addition. For example, the expression 1(2+3) has the same value as the expression  $(1 \times 2) + (1 \times 3)$ , so  $15 \times (8+17)$  is the same as  $(15 \times 8) + (15 \times 17)$ .

Another way is to find the value of the expression  $15 \times (8 + 17) = 15 \times 25 = 375$ , and then find the value of each of the answer choices.

(A) 
$$(15 \times 8) + 17 = 120 + 17 = 137$$

(B) 
$$(17 \times 8) + 15 = 136 + 15 = 151$$

(C) 
$$(15+8) \times (15+17) = 23 \times 32 = 736$$

(D) 
$$(15 \times 8) + (15 \times 17) = 120 + 255 = 375$$

The only match is **(D)**.

## Numbers and Operations: Decimals, Percents, Fractions

Students should be able to use rational numbers to

- accurately compute addition and subtraction using fractions and decimals;
- make reasonable estimations using fractions and decimals; and
- find equivalent forms of fractions, decimals, and percents.

#### Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that best illustrates numbers and operations. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

1. The teacher drew these shapes on the board.



What fraction of the shapes are squares?

- (A)  $\frac{1}{8}$
- (B)  $\frac{1}{4}$
- (C)  $\frac{3}{8}$
- (D)  $\frac{1}{2}$
- 2. Josh is estimating  $4.17 \times 3.9$  to determine if his answer is reasonable. Which is the best way for him to estimate?
  - (A)  $4 \times 3$
  - (B) 4 × 4
  - (C)  $5 \times 3$
  - (D)  $5 \times 4$

Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 ABCD

## Answers to Sample Questions

#### Sample Question 1:

The correct answer to the question is answer choice (B),  $\frac{1}{4}$ .

One way the answer can be found is by

- 1. counting the total number of shapes (8);
- 2. counting how many squares there are among the 8 shapes (2);
- 3. thinking of squares out of 8 shapes as a fractional number  $(\frac{2}{8})$ ;
- 4. being sure that the fractional number is in its lowest term  $(\frac{2 \div 2}{8 \div 2} = \frac{1}{4})$ .

#### Sample Question 2:

The correct answer to the question is answer choice (B),  $4 \times 4$ .

One way the answer can be found is by

- 1. rounding 4.17 to the nearest whole number (4); and
- 2. rounding 3.9 to the nearest whole number (4).

## **Algebraic Concepts**

Students should be able to

- identify, compare, and extend patterns; and
- find and use rules that can contain variables.

#### Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that best illustrates algebraic concepts. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

1. The number machine only accepts even numbers as input. It performs the same operation on each input number to create an output number.

NUMBER MACHINE

Input	Output
20	11
16	9
10	6
6	4
4	3

Which input number creates an output of 15?

- (A) 22
- (B) 24
- (C) 28
- (D) 30
- 2. A box contains 24 batteries that are packaged into groups of 3. If *n* represents the number of packages in the box, which equation would tell how many packages are in the box?
  - (A) 3 + n = 24
  - (B)  $n = 24 \div 3$
  - (C) n-3=24
  - (D)  $24 \times n = 3$

Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 ABCD

#### Answers to Sample Questions

#### Sample Question 1:

The correct answer to the question is answer choice (C), 28.

One way the answer can be found is by

- 1. finding the rule: "What input number will result in the output number being 15?"
  - Notice that each input number is an even number and is larger than its output number.
  - Try to find a relationship between the input and output numbers. Try dividing input 20 in half  $(20 \div 2 = 10)$ , adding 1 to 10, and getting the sum of 11.
  - If this relationship is true for all input and output numbers, then you have the rule. The rule is (input number  $\div$  2) + 1 = output number, OR the rule written as a math sentence is  $(x \div 2) + 1 = y$ .
- 2. using the rule:

```
(input number \div 2) + 1 = 15 OR 15 = (x \div 2) + 1;
input number \div 2 = 15 - 1 15 - 1 = (x \div 2);
input number \div 2 = 14 14 = x \div 2;
input number = 14 × 2 14 × 2 = x;
input number = 28 28 = x.
```

#### Sample Question 2:

The correct answer to the question is answer choice (B),  $n = 24 \div 3$ .

One way the answer can be found is by

- 1. knowing that division means separating the total number of objects into as many equal groups as possible; and
- 2. recognizing that the total number of objects (batteries) is 24 and that these objects have been divided into small groups of 3. You want to know how many groups of 3 are in 24, so using 24 ÷ 3 will give you the answer.

#### Geometry

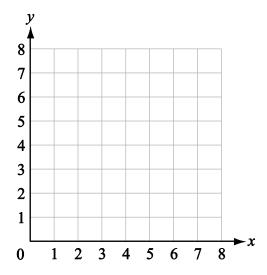
#### Students should be able to

- classify and describe basic 2- and 3-dimensional figures;
- understand and use coordinate grids, including transformation of geometric figures; and
- understand the concepts of congruency, symmetry, and similarity.

#### Sample Question

<u>Directions</u>: Answer the following sample question. Select the answer that best illustrates geometric operations. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the question, turn to the next page and evaluate your answer.

1. A coordinate graph is shown.



Mackenzie plotted the following points on the coordinate grid.

point 
$$R(3, 5)$$
; point  $S(6, 5)$ ; point  $T(8, 2)$ ; point  $U(2, 2)$ 

A polygon is formed with vertices R, S, T, and U and sides  $\overline{RS}$ ,  $\overline{ST}$ ,  $\overline{TU}$ , and  $\overline{UR}$ . Which type of polygon is formed?

- (A) diamond
- (B) pentagon
- (C) square
- (D) trapezoid

#### Sample Answer Sheet: Darken the correct answer for this item.

1 (A) (B) (C) (D)

## Answer to Sample Question

The correct answer to the question is answer choice (D), trapezoid.

One way the answer can be found is by

- 1. plotting the points onto the coordinate grid provided;
- 2. sketching the sides of the polygon;
- 3. noticing that sides  $\overline{RS}$  and  $\overline{TU}$  are parallel and that sides  $\overline{UR}$  and  $\overline{ST}$  are not parallel; and
- 4. knowing that a trapezoid is a quadrilateral with one pair of parallel sides.

#### Measurement

#### Students should be able to

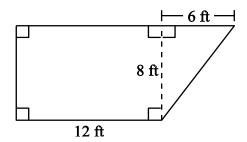
- find the perimeter and area of regular and irregular polygons;
- develop strategies to find the volume and surface area of rectangular solids;
- convert between units in both customary and metric systems; and
- identify tools and units associated with length, weight, capacity, temperature, and time.

#### Sample Question

<u>Directions</u>: Answer the following sample question. Select the answer that best illustrates measurement abilities. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the question, turn to the next page and evaluate your answer.

1. Shown below is a plan for a patio that Mr. Watson is building in his backyard.

#### MR. WATSON'S PATIO



According to Mr. Watson's plan, what is the area of the patio?

- (A)  $48 \text{ ft}^2$
- (B)  $96 \text{ ft}^2$
- (C)  $120 \text{ ft}^2$
- (D)  $216 \text{ ft}^2$

#### Sample Answer Sheet: Darken the correct answer for this item.

1 ABCD

## Answer to Sample Question

The correct answer to the question is answer choice (C), 120 ft<sup>2</sup>.

One way the answer can be found is by

1. finding the area of the  $12 \times 8$  rectangle:

$$A=l\times w;$$

$$A = 12 \times 8;$$

$$A = 96 \text{ ft}^2$$
;

2. finding the area of the  $8 \times 6$  triangle (which is half a rectangle):

$$A = \frac{1}{2} (b \times h);$$

$$A = \frac{1}{2} (6 \times 8);$$

$$A = \frac{1}{2}(48);$$

$$A = 24 \text{ ft}^2$$
;

and

3. adding the two areas together for total area:

$$96 + 24 = 120 \text{ ft}^2$$
.

#### **Data Analysis and Probability**

Students should be able to

- collect and display data;
- interpret and make predictions about a set of data;
- calculate mean, mode, median, and range of a set of data; and
- find the probability of a simple event.

Sample Questions

<u>Directions</u>: Answer the following sample questions. Select the answer that best illustrates data analysis and probability. Darken the circle for your answer choice in the sample answer sheet at the bottom of the page. After you finish answering the questions, turn to the next page and evaluate your answers.

1. The table shows the results of a school cafeteria's survey of 200 students. On the last day of each month, the cafeteria plans to serve the two most favorite foods.

FAVORITE CAFETERIA FOOD

Food	Number of Votes
pizza	74
meatloaf	31
hamburger	59
turkey sandwich	36

Which two foods will the cafeteria be serving?

- (A) pizza and meatloaf
- (B) hamburger and pizza
- (C) pizza and turkey sandwich
- (D) hamburger and turkey sandwich
- 2. Matt randomly selected three cards, without looking, from a stack of letter cards labeled A through K. If none of the cards in the stack repeat, what is the probability that the first card selected is the letter C?
  - (A)  $\frac{8}{11}$
  - (B)  $\frac{3}{8}$
  - (C)  $\frac{3}{27}$
  - (D)  $\frac{1}{11}$

Sample Answer Sheet: Darken the correct answer for each item.

- 1 ABCD
- 2 ABCD

#### Answers to Sample Questions

#### Sample Question 1:

The correct answer to the question is answer choice (B), hamburger and pizza.

One way the answer can be found is by reading the chart to determine which two foods have the most votes. Pizza has the most votes at 74. Hamburger has the second most votes with 59.

#### Sample Question 2:

The correct answer to the question is answer choice (D),  $\frac{1}{11}$ .

One way the answer can be found is by determining how many total cards are in the stack. Cards labeled A–K equal 11 cards. Since there is only 1 card labeled C, there is only 1 chance in 11 that the first card chosen will be the card labeled C.

# Writing the Essay

(Section 5)

On the last section of the ISEE test, you will be asked to write a short essay in response to an assigned writing prompt. A writing prompt is randomly selected for use on each test date. The writing prompts include topics of interest to students at your level and are created to give you an opportunity to tell more about yourself.

This part of the test also gives you a chance to show the schools to which you have applied how well you organize your thoughts and express them in a written format. For the actual ISEE test, you are given a sheet of paper on which to make notes. You must write the essay in ink on two pre-lined pages (erasable ink is allowed), and you also must rewrite the prompt at the top of the first page. The actual instructions you will receive when you take the essay portion of the ISEE are shown in the "Practice Test" section.

You are given 30 minutes to complete the essay. During those 30 minutes you should

- organize your thoughts;
- prepare your notes or make a short outline; and
- write your final copy.

Writing must be done either in cursive or print using a ballpoint pen. The writing should be done directly on the lines preprinted in the answer document, using blue or black ink.

On the following pages, you will find some tips for writing an essay, some sample essay prompts, and lined pages for writing a sample essay. Three sample essay topics and three sets of lined pages have been provided to give you an opportunity to practice on more than one prompt. Remember to add descriptions and details in your response. If possible, you should ask a parent or teacher to read your essay(s) and give you feedback on what you have written.

## **Tips for Writing the Essay**

Here is a brief writing checklist designed to help you organize and write a response to the essay topic provided. This checklist is for your use now, but note that there is NO checklist for you to use when you take the actual ISEE, and you may NOT take a checklist into the test with you. We believe, however, that if you use this checklist as you write your sample essay, you will remember to ask yourself these questions when you write your essay on the actual ISEE.

Did I put the topic in the box at the top of the first page, as instructed?
Did I plan my essay before putting it on the lined sheets?
Did I allow enough time to write my final copy on the lined sheets?
Did I write about the topic that was given?
Did I include details to add interest?
Did I follow rules for grammar, spelling, punctuation, and capitalization?
Can others read my handwriting?
Did I review my writing upon finishing?

#### **Sample Essay Topics**

<u>Directions</u>: Select a topic from the list of sample topics below and write an essay on the pre-lined pages. You may plan your essay on a separate sheet of paper. Remember to rewrite the topic at the top.

If you would like additional practice writing an essay, you'll also find pre-lined pages to write essays on the remaining topics.

- Topic 1: Describe in detail where and how you would spend your perfect vacation.
- Topic 2: What would you like to do to make the world a nicer place in which to live? Explain.
- Topic 3: Who is your favorite relative? Why have you chosen this person?

This page is intentionally left blank.

## Sample Essay #1

STUDENT NAME GRADE APPLYING FOR	
Use blue or black ink to write the final draft of your essay on this sheet.	
You must write your essay topic in this space.	
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Use specific details and examples in your response.	
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## Sample Essay #2

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## Sample Essay #3

STUDENT NAME	GRADE APPLYING FOR	
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Use specific details a	nd examples in your response.	
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# PRACTICE TEST



## LOWER LEVEL

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## **Using the Practice Test**

The Practice Test is the same format as the actual ISEE. In each section, the number of questions and the number of minutes that you have to answer the questions are listed under the name of the section. On the actual ISEE, however, there are additional questions which will not be included on your score report, but which may be used on future tests. Thus, the timings for the Practice Test are slightly shorter than on the actual ISEE, since you are answering only questions that will be used to determine your sample score. The chart below shows the number of questions on each section of the Practice Test and the actual ISEE, and how many minutes you should allow for each section of both tests.

Section	Practice Test	Actual ISEE
Verbal Reasoning	30 Questions—18 Minutes	34 Questions—20 Minutes
Quantitative Reasoning	35 Questions—34 Minutes	38 Questions—35 Minutes
Reading Comprehension	20 Questions—20 Minutes	25 Questions—25 Minutes
Math Achievement	25 Questions—25 Minutes	30 Questions—30 Minutes
Essay	2-Page Limit—30 Minutes	2-Page Limit—30 Minutes

PRACTICE TEST AND ACTUAL TEST—LOWER LEVEL

Although the timings are not the same on the Practice Test and the actual ISEE, since each section on the actual test is carefully timed, it is important to follow the timing instructions on the Practice Test so you can learn how to pace yourself for the actual test.

Remember that the time it takes to read the brief directions at the beginning of each section is NOT included in the testing time. When you take the actual test, you will be allowed a five- to ten-minute break before the Reading Comprehension section and another five- to ten-minute break following the Mathematics Achievement section. On the actual ISEE, you will take each section in the same order in which it appears in the Practice Test. Each section must be taken without stopping; therefore, we strongly encourage you to take the Practice Test exactly the same way so that the experience will be realistic and meaningful. Also, the score you calculate when you check your answers will be more accurate.

Because we think it will help you to know exactly how the test administrator will instruct you on the day of the test, we have included the general directions that will be read to you before the test starts. (These directions are on the next page.) Reading these directions carefully will help you know what to expect.

When you are ready to begin, try to create the following realistic test conditions.

- Find a quiet, well-lighted space with an appropriate writing surface.
- Ask an older person (parent, sibling, friend) to act as test administrator to
  - o read the general directions;
  - o monitor your time;
  - o write down the starting time for each section;
  - o tell you when five minutes remain in each section; and
  - o tell you when to stop.

You will use a copy of the actual answer sheet to mark your answers for the Practice Test. The answer sheet is in Appendix B. You will also use the pre-lined pages in Appendix B for your essay. Use the appropriate parts of the answer sheet and leave the remaining parts blank. For example, leave "Test Administrator" and "ID Number" blank. It may be more convenient for you to photocopy the answer sheet so that you don't have to turn back and forth between the Practice Test and Appendix B.



## **Interested in timing feedback?**

Use our online bubble sheet as you take your paper test!

On a fast-paced test like the ISEE, time management is one of the most critical skills to master. To receive timing feedback, just follow these instructions:

- 1. Create a Free Trial account at ISEE practice test.com (or log in to your existing account).
- 2. Click View Dashboard on your Welcome page.
- 3. From your Dashboard, click the banner for the What to Expect test.
- 4. Select Score Paper for the first section you'll be working on.



5. Read the instructions and click Begin Section when you're ready!

### **Test Directions**

After you are seated in the test room and the test administrator announces that you are ready to begin, he or she will give you your test booklet and an answer sheet. Some of the information on this answer sheet may already be filled in for you, but if not, the test administrator will help you. After you complete the test booklet itself, the administrator will give you your essay topic to write on the last two pages of the answer sheet. There will be two five- to ten-minute breaks during the test.

The general directions the test administrator will read to you before you begin the separate sections of the actual ISEE are below. The administrator will not begin timing you until after he or she has finished reading them and answering any appropriate questions. These are the same directions you should use on the Practice Test. It is important to look at them now because they contain important information.

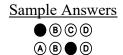
#### Directions

The ISEE measures skills and abilities commonly used by students in school. Your test booklet contains four sections: Verbal Reasoning; Quantitative Reasoning; Reading Comprehension; and Mathematics Achievement. There are several different versions for each test, so the questions in your test booklet will probably be different from the questions that others in this room are answering. Because these tests are given to students in more than one grade, don't be surprised if you notice that some of the questions are very easy for you, or that others are very difficult.

Read the directions and samples printed at the beginning of each test carefully. Work as quickly as you can without becoming careless. Do not spend too much time on any question that is difficult for you to answer since all questions are scored equally. Instead, skip it and answer all of the questions that you can. Then, if you have time, return to any questions you may have skipped.

Please select the best choice for each question. On this test, there is no penalty for an incorrect answer.

Be sure to record all your answers on the answer sheet. Mark only one answer for each question, and make every mark heavy and dark, as in these examples.



If you decide to change one of your answers, be sure to erase the first mark completely. Don't worry if you find that there are more answer spaces on the answer sheet than there are questions in this booklet. As you work, make sure that the number of the question that you are answering matches the number on the answer sheet section that you are marking.

Please do not open the booklet until you are told to do so.



## VERBAL REASONING LOWER LEVEL

**Practice Test** 

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### Section 1 Verbal Reasoning

30 Questions Time: 18 minutes

This section is divided into two parts that contain two different types of questions. As soon as you have completed Part One, answer the questions in Part Two. You may write in your test booklet. For each answer you select, fill in the corresponding circle on your answer document.

### Part One — Synonyms

Each question in Part One consists of a word in capital letters followed by four answer choices. Select the one word that is most nearly the same in meaning as the word in capital letters.

SAMPLE QUESTION:	Sample Answer
DEBATE:	$\mathbb{A}  \mathbb{B}  \bullet  \mathbb{D}$
(A) betray (B) censor (C) dispute (D) reveal	

### **Part Two — Sentence Completion**

Each question in Part Two is made up of a sentence with one blank. Each blank indicates that a word or phrase is missing. The sentence is followed by four answer choices. Select the word or phrase that will best complete the meaning of the sentence as a whole.

SAMPLE QUESTIONS:  Because Paul was thrifty by nature, he rode his bicycle to work every day in an effort to fuel.	Sample Answers  ● ® © ®
(A) conserve (B) create (C) utilize (D) waste	
Americans today vote by secret ballot, in contrast to many early Colonial Americans who	<b>(A) (B) ● (D)</b>
<ul> <li>(A) did not let others know for whom they voted</li> <li>(B) wrote letters demanding the repeal of the Stamp Act</li> <li>(C) spoke their choices for candidates in front of a crowd</li> <li>(D) strongly protested the British government's tax on tea</li> </ul>	

### Part One—Synonyms

**Directions:** Select the word that is most nearly the same in meaning as the word in capital letters.

- 1. REJECT:
  - (A) confine
  - (B) damage
  - (C) label
  - (D) refuse
- 2. NAG:
  - (A) agree
  - (B) annoy
  - (C) conquer
  - (D) defy
- 3. NUTRITIOUS:
  - (A) attentive
  - (B) dangerous
  - (C) nourishing
  - (D) spicy
- 4. RENEW:
  - (A) prepare
  - (B) regret
  - (C) restore
  - (D) simplify
- 5. SUPERB:
  - (A) excellent
  - (B) happy
  - (C) puzzling
  - (D) spirited

- 6. PARTICLE:
  - (A) quality
  - (B) speck
  - (C) tone
  - (D) weight
- 7. NOVEL:
  - (A) cheerful
  - (B) false
  - (C) original
  - (D) perfect
- 8. ELONGATE:
  - (A) bruise
  - (B) calculate
  - (C) lengthen
  - (D) moisten
- 9. SOLEMNLY:
  - (A) curiously
  - (B) harmfully
  - (C) possessively
  - (D) seriously
- 10. UPROOT:
  - (A) guarantee
  - (B) rebel
  - (C) remove
  - (D) salvage

#### 11. SELDOM:

- (A) equally
- (B) naturally
- (C) quietly
- (D) rarely

#### 12. ADHESIVE:

- (A) blunt
- (B) infectious
- (C) lukewarm
- (D) sticky

#### 13. LIBERATE:

- (A) combine
- (B) free
- (C) judge
- (D) obtain

### 14. VIEWPOINT:

- (A) contradiction
- (B) factor
- (C) idealism
- (D) opinion

#### 15. VIGILANCE:

- (A) enthusiasm
- (B) fury
- (C) importance
- (D) watchfulness

# 1

### **Part Two—Sentence Completion**

**Directions:** Select the word or phrase that best completes the sentence.

- 16. It is the natural beauty of Glacier County, with its waterfalls and snow-covered meadows, that ----- the thousands of tourists, hikers, and campers who visit each year.
  - (A) attracts
  - (B) conceals
  - (C) restrains
  - (D) threatens
- 17. Allergies are usually abnormal reactions to ----- substances such as dust, pollen, and animal dander.
  - (A) common
  - (B) imaginary
  - (C) scarce
  - (D) unknown
- 18. To reach maturity, a seagoing loggerhead turtle must survive many -----, such as attacks by gulls and hungry fish.
  - (A) allies
  - (B) destinations
  - (C) hazards
  - (D) voyages
- 19. Although Roman political life was centered in the cities, most Romans lived in the -----, growing crops, tending vines, or cultivating olive groves.
  - (A) countryside
  - (B) deserts
  - (C) museums
  - (D) towns

- 20. Anne Sullivan showed her ----- as Helen Keller's teacher by working with her day and night to help her overcome her disabilities.
  - (A) devotion
  - (B) fear
  - (C) humor
  - (D) scorn
- 21. Like many other medical conditions, malnutrition is often easier to ----- before its occurrence than to treat after its onset.
  - (A) distort
  - (B) eliminate
  - (C) manage
  - (D) prevent
- 22. Hannah Moore, an English writer, was best known for her -----, works whose characters endured extremely sorrowful circumstances.
  - (A) daydreams
  - (B) farces
  - (C) speeches
  - (D) tragedies
- 23. The many types of fish and mammals displayed in the exhibit at the aquarium demonstrate the remarkable ----- of marine life.
  - (A) control
  - (B) disappearance
  - (C) diversity
  - (D) magnification



- 24. Although there were other contributing factors, the ----- cause of industrial growth was the flood of new inventions in eighteenth-century England.
  - (A) detrimental
  - (B) primary
  - (C) sentimental
  - (D) temporary
- 25. Although once ----- in Africa, cheetah populations have been greatly reduced due to hunting, loss of habitat, and decline of the cheetah's prey.
  - (A) attractive
  - (B) threatened
  - (C) unknown
  - (D) widespread
- 26. Most artists begin training early in life, but Anna Mary "Grandma" Moses -----.
  - (A) painted for profit as a young child
  - (B) did not like art during her advanced years
  - (C) started painting when she was past seventy years old
  - (D) specialized in farm scenes and country landscapes
- 27. Since the students looked puzzled, their ------.
  - (A) faces became quite cold
  - (B) classmates began to arrive
  - (C) friend gave them a present
  - (D) teacher repeated the directions

- 28. The movie provided no moral instruction; rather, it invited us to -----.
  - (A) learn a lesson
  - (B) enjoy ourselves
  - (C) examine our values
  - (D) improve our behavior
- 29. Compared to his early paintings, which were usually of lighthearted subjects, the later art of Winslow Homer -----.
  - (A) sold successfully and made him rich
  - (B) was darker and of a more serious nature
  - (C) was appreciated by the critics but not the public
  - (D) represented bright landscapes or people at play
- 30. Although Frederic Chopin was personally on good terms with most musicians of his day, he ------.
  - (A) ignored them at every opportunity
  - (B) seldom gave large public performances
  - (C) did not appreciate their style of romantic music
  - (D) turned out to be one of the most popular composers of his time



### QUANTITATIVE REASONING LOWER LEVEL

**Practice Test** 

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# Section 2 **Quantitative Reasoning**

35 Questions

Time: 34 minutes

Each question is followed by four suggested answers. Read each question and then decide which one of the four suggested answers is best.

Find the row of spaces on your answer document that has the same number as the question. In this row, mark the space having the same letter as the answer you have chosen. You may write in your test booklet.

**EXAMPLE 1:** 

Sample Answer

Which expression is equivalent to the expression  $2 \times (3 + 4)$ ?

 $A \bigcirc C \bigcirc$ 

- (A) 2+7
- (B)  $2 \times 7$
- (C) 5+4
- (D)  $5 \times 4$

The correct answer is  $2 \times 7$ , so circle B is darkened.

**EXAMPLE 2:** 

Sample Answer

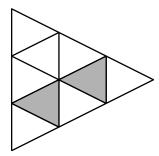
Which could be the dimensions of a rectangle with an area of 48 cm<sup>2</sup>?

 $A \bigcirc C \bigcirc$ 

- (A)  $2 \text{ cm} \times 26 \text{ cm}$
- (B)  $3 \text{ cm} \times 16 \text{ cm}$
- (C)  $5 \text{ cm} \times 9 \text{ cm}$
- (D)  $6 \text{ cm} \times 7 \text{ cm}$

The correct answer is  $3 \text{ cm} \times 16 \text{ cm}$ , so circle B is darkened.

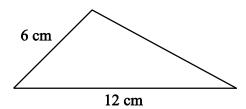
1. The largest triangle shown below is divided into small triangles.



What fraction of the largest triangle is shaded?

- (A)  $\frac{2}{9}$
- (B)  $\frac{2}{7}$
- (C)  $\frac{1}{4}$
- (D)  $\frac{1}{2}$
- 2. Which story best fits the equation  $7 \times 5 = 35$ ?
  - (A) I have 35 cookies. After eating 5 cookies, how many cookies do I have left?
  - (B) I want to share 35 cookies with 12 friends. How many cookies do we each get?
  - (C) I have 7 boxes of cookies, with 5 cookies in each. How many cookies do I have altogether?
  - (D) I have 7 boxes of cookies, and my friend has 5 boxes of cookies. How many boxes of cookies do we have altogether?

- 3. Alice wrote down a whole number greater than 6 and less than 10. When Jim tried to guess the number, Alice told him it was greater than 8 and less than 12. What is Alice's number?
  - (A) 7
  - (B) 9
  - (C) 10
  - (D) 11
- 4. The perimeter of the triangle is 28 centimeters. The lengths of two of the sides are shown.



What is the length of the third side?

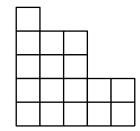
- (A) 10 centimeters
- (B) 18 centimeters
- (C) 36 centimeters
- (D) 46 centimeters
- 5. Use the equations to answer the question.

$$5 + p = 6$$
$$3 + q = 6$$

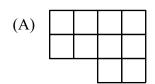
What is the sum of p + q?

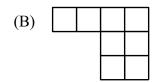
- (A) 4
- (B) 8
- (C) 12
- (D) 20

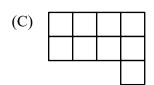
6. Use the diagram to answer the question.

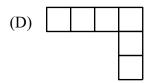


Which piece would complete the diagram to make a square?





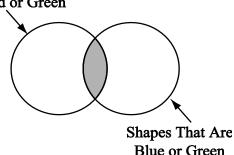




- 7. Nisha and Alex were riding their bikes at the same speed on a bike path. It took Nisha 20 minutes to ride 4 miles. How long did it take Alex to ride 12 miles?
  - (A) 48 minutes
  - (B) 60 minutes
  - (C) 80 minutes
  - (D) 120 minutes

- 8. Which is the largest fraction?
  - $(A) \quad \frac{5}{9}$
  - (B)  $\frac{6}{13}$
  - (C)  $\frac{7}{15}$
  - (D)  $\frac{8}{17}$
- 9. If *x* can be divided by both 3 and 5 without leaving a remainder, then *x* can also be divided by which number without leaving a remainder?
  - (A) 2
  - (B) 8
  - (C) 10
  - (D) 15
- 10. Use the Venn diagram to answer the question.

Shapes That Are Red or Green



What shapes could be found in the shaded part of the Venn diagram?

- (A) a red square
- (B) a blue square
- (C) a blue triangle
- (D) a green triangle

11. A class put three cans full of water in the sun. Each can was covered and had a thermometer in it to measure the temperature of the water in degrees Fahrenheit. One can was painted black, one can was painted white, and the third can was painted silver. The class collected the data shown below.

TEMPERATURE EXPERIMENT

	Black Can	White Can	Silver Can
Start	50°F	50°F	50°F
10 min	53°F	50°F	52°F
20 min	57°F	51°F	54°F
30 min	62°F	51°F	56°F
40 min	68°F	52°F	58°F
50 min	75°F	52°F	60°F

According to the pattern from these data, what would be the predicted temperature of the water in the black can at 70 minutes?

- (A) 75°F
- (B) 79°F
- (C) 83°F
- (D) 92°F
- 12. Use the table to determine the rule.

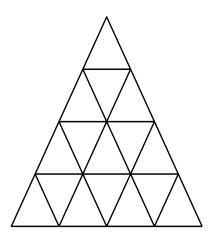
Input	Output	
Δ		
2	8	
7	13	
12	18	
40	46	

What is the rule for the function?

- (A)  $\Delta \times 4 = \Box$
- (B)  $(\Delta \times 3) 1 = \square$
- (C)  $\Delta + 5 = \square$
- (D)  $\Delta + 6 = \Box$

- 13. The perimeter of a square is 8s. What is the length of one side?
  - (A) 2
  - (B) 4
  - (C) 2s
  - (D) 4s
- 14. Which is a value of x in the math equation 15 = 3x + 3?
  - (A) 1
  - (B) 2
  - (C) 3
  - (D) 4

15. Use the figure below to answer the question.



If two more rows were added to the figure, how many small triangles would the sixth row have, assuming the same pattern continues?

- (A) 5
- (B) 7
- (C) 9
- (D) 11
- 16. Use the pattern to help answer the question.

$$1 + 3 = 2^{2}$$

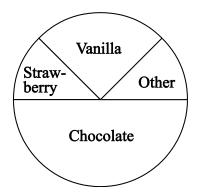
$$1 + 3 + 5 = 3^{2}$$

$$1 + 3 + 5 + 7 = 4^{2}$$

What is the solution to 1 + 3 + 5 + 7 + 9 + 11 + 13 + 15?

- (A)  $5^2$
- (B)  $8^2$
- (C)  $12^2$
- (D)  $13^2$

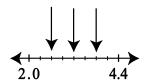
17. A survey of 40 students' favorite ice cream flavors is displayed in the circle graph shown.



About what fraction of the students chose strawberry as their favorite flavor?

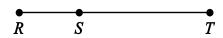
- (A)  $\frac{1}{8}$
- (B)  $\frac{1}{4}$
- (C)  $\frac{1}{3}$
- (D)  $\frac{1}{2}$
- 18. A cat had a litter of 4 kittens. Two of the kittens weighed  $2\frac{1}{2}$  ounces each, 1 kitten weighed 3 ounces, and 1 kitten weighed 4 ounces. What is the mean weight of the kittens from the litter?
  - (A)  $2\frac{1}{2}$  ounces
  - (B)  $2\frac{3}{4}$  ounces
  - (C) 3 ounces
  - (D) 4 ounces

19. Use the number line to answer the question.



Which three numbers are the vertical arrows pointing to on the number line?

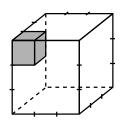
- (A) 2.2, 2.4, 2.6
- (B) 2.4, 2.8, 3.0
- (C) 2.6, 3.2, 3.8
- (D) 2.8, 3.6, 4.2
- 20. The length of *RS* is *x* and the length of *RT* is *y*.



What is the length of *ST*?

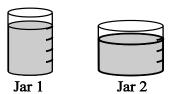
- (A) y-x
- (B) y + x
- (C) x-y
- (D) xy
- 21. In a warehouse, there are 687 boxes with 36 candles in each box. Which expression gives the best estimate of the total number of candles in the warehouse?
  - (A)  $69 \times 40$
  - (B)  $70 \times 40$
  - (C)  $600 \times 30$
  - (D)  $700 \times 40$

22. The volume of the small, shaded cube is 1 unit<sup>3</sup>.



What is the volume of the larger cube?

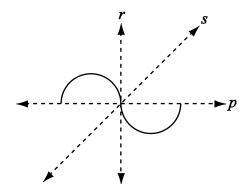
- (A) 9 units<sup>3</sup>
- (B)  $18 \text{ units}^3$
- (C)  $27 \text{ units}^3$
- (D)  $81 \text{ units}^3$
- 23. Jar 1 and Jar 2 would each hold 1 cup of liquid when filled to the top. The jars shown are not completely filled to the top.



If the liquids in the two jars are combined, approximately how much liquid will there be altogether?

- (A)  $\frac{2}{3}$  cup
- (B) 1.5 cups
- (C) 3 cups
- (D) 6 cups

24. The figure shown may be folded along one or more of the dotted lines.



Which line or pair of lines, when folded, will allow the semicircles to exactly match the original figure?

- (A) line p only
- (B) line s only
- (C) both line p and line s
- (D) both line p and line r
- 25. The ingredients in the recipe were evenly mixed and equally divided into 5 bags.

#### **RECIPE**

10 cups of crisp corn cereal

7 cups of pretzel sticks

2 cups of raisins

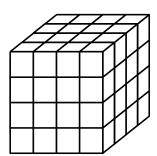
3 cups of chocolate chips

1 cup of sunflower seeds

Approximately how many cups of the mixture were placed in each bag?

- (A)  $3\frac{1}{2}$
- (B) 4
- (C)  $4\frac{1}{2}$
- (D) 5

- 26. The scale on Tanji's map shows that 1.2 inches represents 10 miles. How many inches would it take to represent 25 miles?
  - (A) 2.5 inches
  - (B) 3.0 inches
  - (C) 3.5 inches
  - (D) 3.7 inches
- 27. Ms. Hammond put the names of all her students in a hat. The probability that she will pull out a boy's name at random is 3 out of 7. There are 12 girls in the class. How many boys are in Ms. Hammond's class?
  - (A) 3
  - (B) 4
  - (C) 9
  - (D) 11
- 28. Use the diagram of the cube to answer the question.

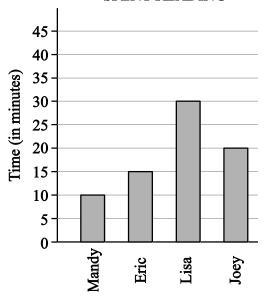


How many small cubes are being used to build the large cube?

- (A) 32
- (B) 48
- (C) 64
- (D) 96

29. Four students recorded the number of minutes spent reading at home for one night and recorded their data in the graph shown.

NUMBER OF MINUTES SPENT READING



Based on this graph, which conclusion is true about the number of minutes spent reading?

- (A) The mean is between 18 and 19.
- (B) Eric read fewer minutes than Mandy.
- (C) The range is greater than the number of minutes Joey read.
- (D) Lisa read the same number of minutes as Joey and Eric combined.
- 30. Which equation can be read as "2 more than 6 times a number is equal to 10 less than the number"? Let *n* represent the unknown number.

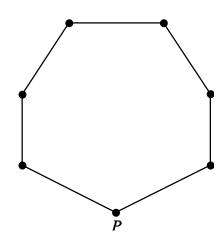
(A) 
$$2 + (6 \times n) = 10 - n$$

(B) 
$$2 + (6 \times n) = n - 10$$

(C) 
$$2 \times (6 \times n) = 10 - n$$

(D) 
$$2 \times (6 \times n) = n - 10$$

31. Use the figure shown to answer the question.



How many triangular regions can be made in the figure by only drawing line segments from vertex *P* to the other vertices?

- (A) 4
- (B) 5
- (C) 6
- (D) 7
- 32. Kara has a box of chocolates with different cream fillings: caramel, vanilla, cinnamon, orange, and cocoa. The probability of choosing a chocolate filled with caramel is 4 out of 9. Which combination of chocolates is possible?
  - (A) 4 caramel chocolates and 9 others
  - (B) 16 caramel chocolates and 36 others
  - (C) 18 caramel chocolates and 8 others
  - (D) 20 caramel chocolates and 25 others

33. Josh did the problem shown with his calculator.

$$\frac{51 \times 743}{25}$$

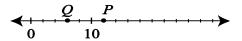
What is a reasonable estimation for his answer?

- (A) between 1,000 and 1,200
- (B) between 1,200 and 2,000
- (C) between 2,000 and 2,500
- (D) between 2,500 and 3,000
- 34. What is the value of n in the expression

$$\frac{30(15+45)}{3}=n?$$

- (A) 200
- (B) 600
- (C) 900
- (D) 1,800

35. Use the number line shown to answer the question.



*P* is the average of *Q* and another number. What is the other number?

- (A) 3
- (B) 6
- (C) 14
- (D) 18



### READING COMPREHENSION LOWER LEVEL

**Practice Test** 

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# Section 3 Reading Comprehension

20 Questions Time: 20 minutes

This section contains four short reading passages. Each passage is followed by five questions based on its content. Answer the questions following each passage on the basis of what is <u>stated</u> or <u>implied</u> in that passage. You may write in your test booklet.

#### Questions 1–5

1

2	Frederick Douglass found time for another job.
3	As a former slave himself, he made time to
4	work on the Underground Railroad.
5	The Underground Railroad was not a
6	railroad with trains and tracks. But it did have
7	passengers, conductors, stations, and
8	stationmasters. Runaway slaves were the
9	passengers, and the conductors were the people
10	who led them North. The station was where
11	they rested and hid—usually the homes of
12	people who hated slavery. These were
13	stationmasters.

His days already crowded with work,

1 1. 1. Frederick Douglass' home in Rochester, 14 New York, was a station on the Underground 15 Railroad. He never knew when to expect a 16 group of slaves. Usually they came late at night 17 with a knock on the door. Frederick and Anna. 18 his wife, would look at each other and know the Underground Railroad was running. Anna 20 would ready the house and Frederick would go 21 to the door. He wouldn't open it. First he would whisper, "Who's there?" "A friend with friends," someone would answer. Then Frederick knew it was safe to let them inside.

Frederick Douglass' whole family worked on the Railroad. His five children helped him hide the slaves and make them comfortable. "Remember," Frederick said, "they are guests in our house." They had to be quick guests. Traveling on the Underground Railroad was dangerous. Grown-ups talked in whispers and 32 children learned to play in whispers, too. 33 In 1850, the Underground Railroad became 34 more dangerous when a new law was passed. 35 Called the Fugitive Slave Law, it said that 36 runaway slaves must be returned to their masters. Anyone caught hiding slaves would be fined or thrown in jail. 39 Slaves were not safe anywhere in the 40 United States. They had to escape to Canada. 41 Frederick Douglass' home in Rochester became 42 an important station, since it was the last station 43 on the line on Lake Ontario. Across the lake lay the safety of Canada. 45 Over the years, Frederick Douglass helped 46 over 400 slaves escape. Each time he thought, 47

"There goes one less slave, one more free

48

person."

- 1. The primary purpose of the passage is to
  - (A) relate the various roles Frederick Douglass played in his lifetime.
  - (B) analyze the reasons for the operation of the Underground Railroad.
  - (C) describe Frederick Douglass' work with the Underground Railroad.
  - (D) discuss the characteristics of the slaves who used the Underground Railroad.
- 2. The passage states that the slaves filled which role on the Underground Railroad?
  - (A) conductors
  - (B) engineers
  - (C) passengers
  - (D) stationmasters
- 3. In line 36, "Fugitive" most nearly means
  - (A) escapee.
  - (B) immigrant.
  - (C) pirate.
  - (D) wanderer.

- 4. According to the passage, how did Frederick Douglass' job change in 1850?
  - (A) It became harder because fewer people worked with him.
  - (B) It became more complicated because he had to involve his family.
  - (C) It became more dangerous because, if caught, he could now go to prison.
  - (D) It became easier because more former masters came and retrieved the slaves.
- 5. The passage provides information to answer which question?
  - (A) In which state did the Underground Railroad originate?
  - (B) What was Frederick Douglass' work other than his work with slaves?
  - (C) Why did Frederick Douglass have his family members help him in his work?
  - (D) After 1850, what was the destination of most slaves on the Underground Railroad?

#### Questions 6–10

8

10

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12

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14

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18 19

When a building is torn down, a vacant lot 1 is created. However, the lot will not remain 2 "vacant" for long. Soon the first plants will 3 appear. 4 5

On rare occasions, seeds may remain under buildings for decades, perhaps a hundred years or more. The building over them keeps them dry and preserved. Once the building goes, rainwater may dampen the seeds and cause them to sprout. When this happens, new plants will start growing in the vacant lot.

This sort of thing happened in London after the city was bombed during the Second World War. After many damaged buildings were torn down, beautiful wild flowers that had not been known to grow in London for hundreds of 16 years started growing in the vacant lots.

Even if this does not happen with old seeds, plants will show up anyway. Some of the seeds will be carried in the wind to the newly formed

vacant lot. Birds will leave undigested seeds on the ground in their droppings. Other seeds may 22 drop off the clothing of people walking near or 23 across the vacant lots. Eventually, seeds of 24 plants and spores of mosses and ferns will find 25 their way to the lot. 26

If the lot is left free to develop for many 27 years and receives adequate sunlight and rain, 28 its plant life will follow a predictable life cycle. Its first plant inhabitants will be weeds and 30 wild flowers, such as dandelions and clover. 31 Over the years, grasses will appear, followed 32 by vines and quick-growing trees such as the 33 white pine. In a few years, the lot will probably become home to birds, insects, and many small 35 animals. 36

37 Vacant lots may appear to be ugly, harsh places. Yet, they teach us something. They 38 prove that life, if given half a chance, will take over any place it can—even a vacant lot.

- 6. Which best expresses the main idea of the passage?
  - (A) Life will return even to a vacant lot in the city.
  - (B) Animals will not live in a vacant lot until plant life has developed.
  - (C) The clothing of people walking through the city carries plant seeds.
  - (D) Many buildings in London were destroyed by bombing during the Second World War.
- 7. Which best characterizes plant life as it is described in the passage?
  - (A) beautiful
  - (B) edible
  - (C) persistent
  - (D) untidy
- 8. The author implies that a good place to look for seeds of plants that no longer grow in the city would be
  - (A) in the dirt under very old buildings.
  - (B) in places that are full of dandelions and clover.
  - (C) in open fields that receive a lot of sunlight and rain.
  - (D) on the clothing of people walking through vacant lots.

- 9. In the fifth paragraph (lines 27–36), the author implies that the return of life to a vacant lot would be held back if
  - (A) animal life disappeared from the area.
  - (B) people did not walk near or across the lot.
  - (C) the lot did not get enough water and sunlight.
  - (D) the lot became covered with grasses and vines.
- 10. The function of the last paragraph (lines 37–40) is to
  - (A) provide an exciting ending to the passage.
  - (B) leave the reader with an unsolved mystery.
  - (C) summarize one of the main ideas of the passage.
  - (D) provide evidence that the author's argument is correct.

### Questions 11–15

1	On a recent trip to the Oakland Museum to
2	see a display of African American quilts,
3	several students got lost. We boarded two
4	different subway cars, and about six students
5	who were in the car next to mine decided to
6	take advantage of my not being there. They
7	began walking from one car to the other, which
8	they are not supposed to do. When we came to
9	our stop, they didn't know it was time to get off
10	since they were in a different car. As I was
11	counting noses in the station, I saw six of them
12	pressed up against the glass in the last car,

13	looking worried and distraught as the train
14	pulled out.
15	I went upstairs to speak with the
16	stationmaster, who phoned ahead to check with
17	security personnel. They reported that the
18	students had not disembarked at the next
19	station. So the stationmaster got on the paging
20	system and announced, "Will Ms. Logan's
21	students please call 214. Will Ms. Logan's
22	students please call 214." I returned to the train
23	platform downstairs to see the rest of my class
24	running around wildly looking for a phone.

- 11. The passage is primarily concerned with describing
  - (A) the benefits of traveling by train.
  - (B) the importance of visiting museums.
  - (C) the strengths and weaknesses of subway security.
  - (D) the teacher's experience with a group of students.
- 12. In line 18, "disembarked" most nearly means
  - (A) called.
  - (B) continued.
  - (C) gotten off.
  - (D) asked for help.
- 13. Which can be inferred from the last sentence (lines 22–24)?
  - (A) The students were bored and desired exercise.
  - (B) The students were trying to find their lost classmates.
  - (C) The students who were not lost thought they should call 214.
  - (D) The telephones on the subway platform were not operating properly.

- 14. The passage supplies information to answer which question?
  - (A) Where were the students going?
  - (B) Where were the students coming from?
  - (C) How many students were in the total group?
  - (D) How did the class react when the students were all reunited?
- 15. According to the author, a group of students did not get off the subway at the appropriate station because
  - (A) their teacher miscounted noses.
  - (B) the subway paging system was not working.
  - (C) they were distracted by the other passengers.
  - (D) they were not in the same car as their teacher.

### Questions 16-20

One spring I celebrated the first ant parade that found its way into my kitchen by allowing it to do whatever it wanted to. A steady line of ants filed from a crack just below a windowsill to the corner of my sink, where I keep a small drainer of vegetable wastes for my compost heap. Another line was headed just as steadily in the other direction.

Because my drainer contained too many odds and ends for me to see exactly what it was the ants were after, I set up a feeding station to determine their food preferences. I turned a dinner plate upside down, and on its rounded, easily accessible surface, I dabbed a few items: a little peanut butter, some honey, some cottage cheese, and plain water. As the day went by, I

added a piece of apple, some raw egg white,milk, and vinegar.

I soon learned that they were interested in everything except the vinegar, but their real favorite was the honey. There were always four or five ants crowded around the honey drop, while just one or two were exploring the other substances.

As much as I enjoyed watching the ants making their food choices, I concluded that such encouragement was not good for our relationship. So I cleared up my feeding station and began my annual effort to eliminate or protect the foods that invite ants to forage indoors.



- 16. The main purpose of the passage is to describe how
  - (A) ants locate food and take it to their nests.
  - (B) ants find their way into people's homes.
  - (C) the author learned about ants' food preferences.
  - (D) the author protects the kitchen against ants.
- 17. The author's attitude toward ants is best described as one of
  - (A) annoyance.
  - (B) disgust.
  - (C) dismay.
  - (D) interest.
- 18. The author turned the dinner plate upside down (lines 12–13) in order to
  - (A) make the food visible from far away.
  - (B) keep the food safe from other insects.
  - (C) keep the ants from carrying the food away.
  - (D) make it easier for the ants to climb onto it.

- 19. By saying that such encouragement was not "good for our relationship" (lines 27–28), the author is suggesting that the ants could become
  - (A) annoying.
  - (B) dangerous.
  - (C) unappreciative.
  - (D) unfriendly.
- 20. In line 30, "forage" most nearly means to
  - (A) build a nest.
  - (B) look for food.
  - (C) form a parade.
  - (D) raise offspring.



### MATHEMATICS ACHIEVEMENT LOWER LEVEL

**Practice Test** 

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# **Section 4 Mathematics Achievement**

25 Questions

Time: 25 minutes

Each question is followed by four suggested answers. Read each question and then decide which one of the four suggested answers is best.

Find the row of spaces on your answer document that has the same number as the question. In this row, mark the space having the same letter as the answer you have chosen. You may write in your test booklet.

SAMPLE QUESTION:

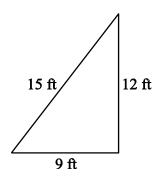
Sample Answer

Which number is divisible by 6 without a remainder?

- (A) 16
- (B) 33
- (C) 48
- (D) 64

The correct answer is 48, so circle C is darkened.

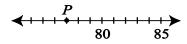
1. Use the triangle to answer the question.



What is the perimeter of the triangle? (P = s + s + s)

- (A) 18 feet
- (B) 36 feet
- (C) 54 feet
- (D) 72 feet
- 2. A total of 28 students were asked which one of three snacks—ice cream, popsicles, or frozen yogurt—they preferred. If 17 students said they preferred ice cream, and 4 students said they preferred popsicles, how many students said they preferred frozen yogurt?
  - (A) 7
  - (B) 11
  - (C) 15
  - (D) 21
- 3. What is the name of a rectangle with sides of equal length?
  - (A) hexagon
  - (B) octagon
  - (C) pentagon
  - (D) square

- 4. What is the standard form for two hundred three thousand forty-nine?
  - (A) 203,049
  - (B) 203,409
  - (C) 230,490
  - (D) 234,900
- 5. Use the number line to answer the question.



What number is represented by point *P* on the number line?

- (A) 73
- (B) 77
- (C) 79
- (D) 83
- 6. What is the value of the expression 308 + 197?
  - (A) 405
  - (B) 495
  - (C) 505
  - (D) 515
- 7. Which expression is equal to 20?
  - (A)  $(3 \times 5) + 4 7$
  - (B)  $3 \times (5+4) 7$
  - (C)  $3 \times 5 + (4 7)$
  - (D)  $3 \times (5 + 4 7)$

8. A class put three cans full of water in the sun. Each can was covered and had a thermometer in it to measure the temperature of the water in degrees Fahrenheit. One can was painted black, one can was painted white, and one can was painted silver. The table shows the data collected.

TEMPERATURE EXPERIMENT

	Black Can	White Can	Silver Can	
Start	50°F	50°F	50°F	
10 min	53°F	50°F	52°F	
20 min	57°F	51°F	54°F	
30 min	62°F	51°F	56°F	
40 min	68°F	52°F	58°F	
50 min	75°F	52°F	60°F	

At 50 minutes, how much warmer was the water in the black can than the water in the white can?

- (A) 8°F
- (B) 13°F
- (C) 18°F
- (D) 23°F
- 9. Which fraction is equivalent to 0.4?
  - $(A) \quad \frac{1}{4}$
  - (B)  $\frac{1}{40}$
  - (C)  $\frac{4}{10}$
  - (D)  $\frac{4}{100}$
- 10. What is the value of the expression 2,000 165?
  - (A) 1,735
  - (B) 1,835
  - (C) 1,935
  - (D) 2,835

- 11. If  $2 \times (\Box + 4) = 22$ , what number does  $\Box$  stand for?
  - (A) 7
  - (B) 9
  - (C) 11
  - (D) 15
- 12. Chris buys five items costing \$3.49, \$11.99, \$0.50, \$2.99, and \$16.99. What is the estimated total cost of Chris' items?
  - (A) between \$20 and \$25
  - (B) between \$25 and \$30
  - (C) between \$30 and \$35
  - (D) between \$35 and \$40

13. The graph shows the population of four towns.

#### POPULATION OF FOUR TOWNS

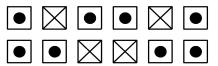
Southville	† † † † †
Northville	***
Eastville	<b>†</b> †
Westville	****

= 5,000 people

How many more people live in Southville than live in Eastville?

- (A) 3,000
- (B) 5,000
- (C) 10,000
- (D) 15,000
- 14. Lake Superior has an area of about 31,700 mi<sup>2</sup>. Which lake has an area closest to  $\frac{1}{3}$  that of Lake Superior?
  - (A) Lake Nyasa, which has an area of 11,430 mi<sup>2</sup>
  - (B) Lake Tanganyika, which has an area of 12,700 mi<sup>2</sup>
  - (C) Lake Huron, which has an area of 23,000 mi<sup>2</sup>
  - (D) Lake Victoria, which has an area of 26,828 mi<sup>2</sup>

15. Use the diagram to answer the question.



If one of the cards is picked up at random, what is the chance that it will be a  $\bigcirc$ ?

- (A) 1 out of 4
- (B) 1 out of 3
- (C) 1 out of 2
- (D) 2 out of 3

16. Use the table to answer the question.

#### HOPE SCHOOL'S SCORES

Event 1	7.9	8.2	8.3	7.8	8.0
Event 2	8.3	8.3	8.4	8.0	7.9
Event 3	7.6	8.1	7.5	7.4	7.7
Event 4	8.0	7.9	7.9	7.6	7.7

What is the mode of this set of data?

- (A) 7.6
- (B) 7.9
- (C) 8.0
- (D) 8.3
- 17. Use the set of numbers shown to answer the question.

Which describes this set of numbers?

- (A) odd numbers
- (B) even numbers
- (C) prime numbers
- (D) composite numbers
- 18. If the area of a rectangle is  $20 \text{ cm}^2$ , which equation can be used to determine the width of that rectangle? (A = lw, where A = Area, l = length, and w = width.)
  - (A)  $w = \frac{20}{l}$
  - (B)  $w = \frac{l}{20}$
  - (C) w = 20 l
  - (D) w = 20 + l

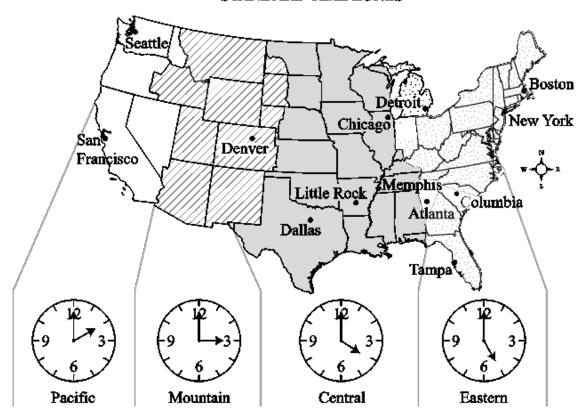
- 19. Which fraction is between  $\frac{1}{2}$  and  $\frac{9}{10}$ ?
  - (A)  $\frac{1}{4}$
  - (B)  $\frac{1}{3}$
  - (C)  $\frac{2}{5}$
  - (D)  $\frac{4}{5}$
- 20. Use the number sequence to answer the question.

What is the next number in the sequence?

- (A) 34
- (B) 44
- (C) 54
- (D) 64

21. Use the Time Zone map to answer the question.

### STANDARD TIME ZONES

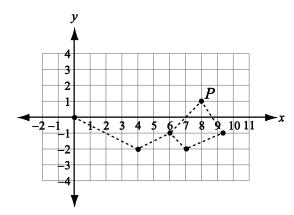


An airplane leaves Seattle at 1:00 P.M. and arrives 4 hours later in Detroit. What time is it in Detroit?

- (A) 10 A.M.
- (B) 1 P.M.
- (C) 5 P.M.
- (D) 8 P.M.
- 22. What is the sum of 2.9 + 1.7?
  - (A)  $3\frac{3}{5}$
  - (B)  $4\frac{1}{5}$
  - (C)  $4\frac{2}{5}$
  - (D)  $4\frac{3}{5}$

- 23. What is the perimeter of a rectangle that has a length of 8 inches and a width of 5 inches? (P = 2l + 2w)
  - (A) 13 inches
    - (B) 23 inches
  - (C) 26 inches
  - (D) 28 inches

24. Use the coordinate grid to answer the question.



What are the coordinates of point P in the figure?

- (A) (1,7)
- (B) (1, 8)
- (C) (8, 1)
- (D) (8, 2)

25. Terry had  $5\frac{5}{8}$  feet of wire. He used 3  $\frac{3}{4}$  feet of the wire to make a lamp. How

many feet does he have left?

- (D)  $2\frac{7}{8}$



### ESSAY LOWER LEVEL

**Practice Test** 

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#### **Essay Topic Sheet**

The directions for the Essay portion of the ISEE are printed in the box below. Use the pre-lined pages in Appendix B for this part of the Practice Test.

NOTE: The page references in the directions below refer to the page numbers at the bottom of the answer sheet, not to the page numbers of the *What to Expect on the ISEE* book.

You will have 30 minutes to plan and write an essay on the topic printed on the other side of this page. **Do not write on another topic.** An essay on another topic is not acceptable.

The essay is designed to give you an opportunity to show how well you can write. You should try to express your thoughts clearly. How well you write is much more important than how much you write, but you need to say enough for a reader to understand what you mean.

You will probably want to write more than a short paragraph. You should also be aware that a copy of your essay will be sent to each school that will be receiving your test results. You are to write only in the appropriate section of the answer sheet. Please write or print so that your writing may be read by someone who is not familiar with your handwriting.

You may make notes and plan your essay on the reverse side of the page. Allow enough time to copy the final form onto your answer sheet. You must copy the essay topic onto your answer sheet, on page 3, in the box provided.

Please remember to write only the final draft of the essay on pages 3 and 4 of your answer sheet and to write it in blue or black pen. Again, you may use cursive writing or you may print. Only pages 3 and 4 will be sent to the schools.

Directions continue on the next page.

*REMINDER*: Please write this essay topic on the first few lines of page 3 of your answer sheet.

#### **Essay Topic**

If you were granted the power to change one thing about your community, what would you change and why?

- Only write on this essay question
- Only pages 3 and 4 will be sent to the schools
- Only write in blue or black pen

Notes	
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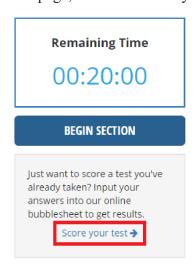


#### **How to Score Your Test**

- 1. Create a new Free Trial account at ISEEpracticetest.com (or log in to your existing account).
- 2. Click "View Dashboard" on your Welcome! page.
- 3. Click on the banner for the What to Expect test.



- 4. Click "Score Paper" for the first section you would like to score.
- 5. On the Section Instructions page, click the "Score your test" link.



- 6. Enter the answers from your bubble sheet, then click "End Section".
- 7. When all sections are complete, click "View Analysis" to see results!

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## SCORING THE PRACTICE TEST



LOWER LEVEL

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#### **Step-by-Step Directions**

When you have finished all five sections of the Practice Test, you will be ready to grade and score your test. Follow the steps on these next pages exactly as written, and you will soon know your score and how you did compared to other students who have taken a similar practice test, except for the essay.

You will have three scores when you finish: your raw score, your scaled score range, and your quartile ranking. As you determine these three scores, enter them in the table below.

#### **ISEE Practice Test Scoring**

		Verbal Reasoning	Quantitative Reasoning	Reading Comprehension	Mathematics Achievement
1.	Raw Score				
2.	Scaled Score Range				
3.	Quartile				

#### **Finding Your Raw Score**

The number of questions that you have answered correctly is called your "raw score." As you will see, you get one point for every question that you answer correctly, but no points for a question you answer incorrectly or omit.

- 1. Place your answer sheet beside the Verbal Reasoning Answer Key table in the pages below.
- 2. Enter the answer that you chose for question 1 in the "Your Answer" column. Next, move to the column to the right and put a "+" if your answer is correct. Leave this box blank if your answer is wrong or if you skipped this question.
- 3. Continue until you have entered your answers beside the correct answers to each of the 30 Verbal Reasoning questions.
- 4. Move your Practice Test answer sheet beside the Quantitative Reasoning Answer Key and follow steps 2 and 3 above. (Note: Although the Practice Test Answer Key lists questions by NCTM standards, on the actual Individual Student Report (ISR), your results for Quantitative Reasoning are listed as "Word Problems.")
- 5. Move to Reading Comprehension and Mathematics Achievement Answer Key in turn and follow steps 2 and 3 above. Remember to skip questions you did not answer as you mark down your answers.
- 6. Count the number of correct (+) answers in each section. For example, if you have 12 "+" marks in Verbal Reasoning, write 12 next to Total Correct.
- 7. Count each section separately and write down the number of correct answers next to Total Correct. These are your raw scores.
- 8. Enter the raw scores for each section on line 1 of the ISEE Practice Test Scoring table above.

For a full explanation of scaled scores, percentiles, and stanines, please see the "Understanding the Individual Student Report (ISR)" section of this book.

#### **Finding Your Scaled Score**

You will need to convert (change) your raw score to a scaled score to see what it means and how you compare with other students who took a similar test. This step is necessary because there are different forms of the ISEE, and the scaled score helps the people who score the ISEE compare your score with other scores. We have provided a scaled score range for each raw score, because the Practice Test that you took cannot be equated exactly with the real ISEE test. The reason: the Practice Test was not taken under a real testing environment at a school or ISEE office. Nevertheless, the score you calculate here will be sufficiently close for you to feel confident in the score you can expect. Your actual ISEE score report will show a single scaled score for each section rather than the ranges shown on these conversion tables. Follow these steps exactly.

- 1. Turn to the conversion tables found after the Answer Key tables. Note there are several tables (one for each section).
- 2. Find the correct conversion table for the raw score of the section you wish to equate. For example, in the table for Verbal Reasoning, find the line that lists the total of your correct answers (your "raw" score) on the Verbal Reasoning section. Find the reported range of scaled scores beside your raw score. Record these numbers under the corresponding column on line 2 of the ISEE Practice Test Scoring table.
- 3. Repeat for the other three sections.

#### **Finding Your Quartile Score**

Your quartile score is based on how you compare to other students applying to the same grade. Using the comparative data table that is next to the conversion table in each separate section, find the quartile that corresponds to your scaled score. Record the quartile for each section on line 3 of the ISEE Practice Test Scoring table.

#### **Reviewing Your Essay**

The ISEE does NOT score your essay. A copy of your essay will be made available to each school you listed to receive your scores. Each school will judge the essay independently, using its own standards. Remember, the essay and the rest of the ISEE are only two of the pieces of information admission officers will use to determine your potential for success at their schools.

For this Practice Test, we suggest that you ask an adult who knows you to read your practice essay and give you feedback about how you did, using the tips for essay writing found earlier in this guide.

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#### **ISEE Practice Test Answer Keys**

#### Verbal Reasoning Answer Key—Lower Level (30 items)

Item	Key	Your	+ If	*Type
		Answer	Correct	Турс
1	D			S S
2	В			
3	С			S S
4	С			S
5	A			S
6	В			S
7	С			S
8	С			S
9	C A B C C D C D			S
10	С			S
11				S S S S S S
12	D			S
13	В			S S S
14	D			
15	D			S
16	A A C A A D			SWR
17	Α			SWR
18	С			SWR
19	A			SWR
20	A			SWR
21	D			SWR
22	D			SWR
23	С			SWR
24	В			SWR
25	D C			SWR
26	С			PR
27	D			PR
28	В			PR
29	В			PR
30	С			PR
TOTAI	CORE	RECT		

#### \*Key to Type of Item

S = Synonyms

**SWR** = **Single Word Response** 

**PR** = **P**hrase **R**esponse

#### Quantitative Reasoning Answer Key—Lower Level (35 items)

Item	Key	Your	+ If	*Type
	1103	Answer	Correct	
1	A			ND
2	С			NW
3	В			NW
4	A			M
5	A			A
6	В			G
7	В			NW
8	A			ND
9	D			A
10	D			D
11	D			D
12	D			A
13 14	С			M
14	D			A
15	D			Α
16	В			A
17	A			ND
18	A C			D
19	С			ND
20	A			A
21	A D C			NW
21 22 23				M
23	В			ND
24	D			G
25	C			ND
26	В			ND
27	С			D
28	С			M
29	A			D
30	В			A
31	В			G
32	D			D
33	В			NW
34	В			NW
35	D			A
TOTAI	CORI	RECT		

#### \*Key to Type of Item

**NW** = **N**umbers and Operations **A** = **A**lgebraic Concepts

(Whole Numbers) G = Geometry

ND = Numbersand Operations M = Measurement

(Decimals, Percents, Fractions) D = Data Analysis and Probability

(On the actual Individual Student Report, your results for Quantitative Reasoning will only list Word Problems.)

#### Reading Comprehension Answer Key—Lower Level (20 items)

Item	Key	Your Answer	+ If Correct	*Type
1	С			MI
2	С			OL
3	A			V
4	С			SI
5	D			OL
6	A			MI
7	С			OL
8	A			I
9	С			I
10	С			OL
11	D			MI
12	С			V
13	С			I
14	A			OL
15	D			SI
16	С			MI
17	D			I
18	D			OL
19	A			T/S/F
20	В			V
TOTAI	CORI	RECT		

#### \*Key to Type of Item

MI = Main Idea

SI = Supporting Ideas

I = Inference V = Vocabulary

O/L = Organization/Logic

T/S/F = Tone/Style/Figurative Language

#### Mathematics Achievement Answer Key—Lower Level (25 items)

Item	Key	Your	+ If	*Type
1		Answer	Correct	
1	В			M
2	A			D
3 4	D			G
	A			NW
5 6	B C			NW
6				NW
7	В			A
8	D			D
9	С			ND
10	В			NW
11	A			A
12	D			ND
13	D			D
14	A			NW
15	В			D
16	В			D
17	С			NW
18	A			A
19	D			ND
20	В			A
21	D			M
22	D			ND
23	C C			M
24				G
25	A			ND
TOTAI	L CORI	RECT		

#### \*Key to Type of Item

NW = Numbers and Operations A = Algebraic Concepts

(Whole Numbers) G = Geometry

ND = Numbers and Operations M = Measurement

(Decimals, Percents, Fractions) **D** = **D**ata Analysis and Probability

#### **Practice Test Conversion Tables and Percentiles (Quartiles)**

#### **Verbal Reasoning Conversion Table—Lower Level**

2019 ISEE Practice Tests				
Scaled Score Ranges				
(Min. = 754 and Max. = 911)  Raw				
Score	*Reported Range			
30	881	911		
29	876	906		
28	872	902		
27	867	897		
26	863	893		
25	859	889		
24	855	885		
23	851	881		
22	847	877		
21	842	872		
20	838	868		
19	834	864		
18	830	860		
17	826	856		
16	821	851		
15	817	847		
14	813	843		
13	808	838		
12	804	834		
11	800	830		
10	796	826		
9	792	822		
8	787	817		
7	783	813		
6	779	809		
5	774	804		
4	770	800		
3	766	796		
2	762	792		
1	758	788		
0	754	784		

Comparative Data Scaled Score Quartiles Based on 2018–2019 ISEE Norms				
Applicants to Grade	75th	50th	25th	
5	858	841	827	
6	867	854	836	

<sup>\*</sup>Minimum reported range is 30 points wide.

#### Quantitative Reasoning Conversion Table—Lower Level

2019 I	2019 ISEE Practice Tests				
Sca	Scaled Score Ranges				
(Min. = 767 and Max. = 912)					
Raw					
Score	*Reported Range				
35	882	912			
34	878	908			
33	875	905			
32	871	901			
31	868	898			
30	865	895			
29	861	891			
28	858	888			
27	855	885			
26	852	882			
25	848	878			
24	845	875			
23	842	872			
22	839	869			
21	835	865			
20	832	862			
19	829	859			
18	825	855			
17	822	852			
16	819	849			
15	816	846			
14	812	842			
13	809	839			
12	806	836			
11	802	832			
10	799	829			
9	796	826			
8	793	823			
7	789	819			
6	786	816			
5	783	813			
4	780	810			
3	776	806			
2	773	803			
1	770	800			
0	767	797			

Comparative Data Scaled Score Quartiles Based on 2018–2019 ISEE Norms				
Applicants to GRADE 75th 50th 25th				
5	862	846	829	
6	874	859	842	

<sup>\*</sup>Minimum reported range is 30 points wide.

#### Reading Comprehension Conversion Table—Lower Level

2019 ISEE Practice Tests Scaled Score Ranges (Min. = 761 and Max. = 914)				
Raw Score	*Reported Range			
20	884	914		
19	878	908		
18	872	902		
17	866	896		
16	860	890		
15	854	884		
14	847	877		
13	841	871		
12	835	865		
11	829	859		
10	823	853		
9	816	846		
8	810	840		
7	804	834		
6	798	828		
5	792	822		
4	786	816		
3	779	809		
2	773	803		
1	767	797		
0	761	791		

Comparative Data Scaled Score Quartiles Based on 2018–2019 ISEE Norms				
Applicants to GRADE 75th 50th 25th				
5	851	832	815	
6	868	845	827	

<sup>\*</sup>Minimum reported range is 30 points wide.

#### **Mathematics Achievement Conversion Table—Lower Level**

2019 ISEE Practice Tests Scaled Score Ranges (Min. = 782 and Max. = 907)				
Raw Score	*Reported Range			
25	877	907		
24	870	900		
23	867	897		
22	863	893		
21	860	890		
20	856	886		
19	852	882		
18	848	878		
17	845	875		
16	841	871		
15	837	867		
14	833	863		
13	830	860		
12	826	856		
11	822	852		
10	819	849		
9	815	845		
8	811	841		
7	808	838		
6	804	834		
5	800	830		
4	797	827		
3	793	823		
2	789	819		
1	786	816		
0	782	812		

Comparative Data Scaled Score Quartiles Based on 2018–2019 ISEE Norms						
Applicants to GRADE	75th 50th 25th					
5	864	849	836			
6	875	863	848			

<sup>\*</sup>Minimum reported range is 30 points wide.

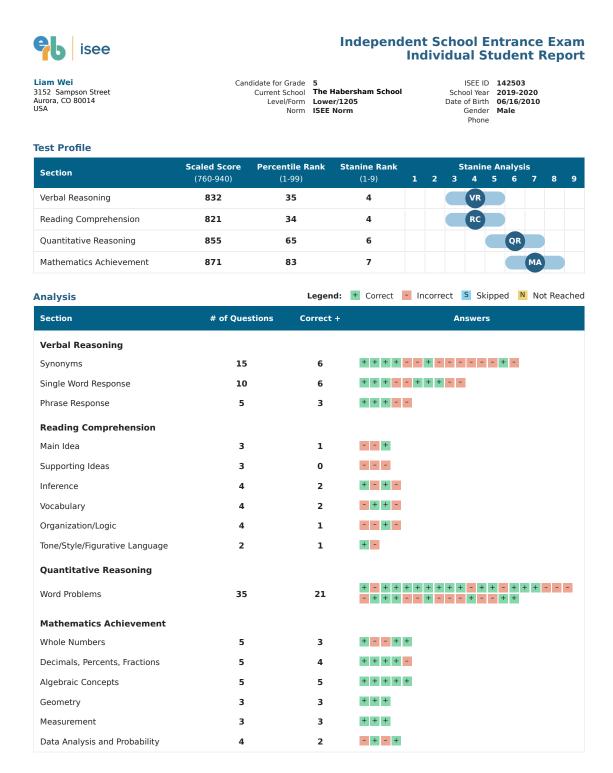
# UNDERSTANDING THE INDIVIDUAL STUDENT REPORT (ISR)



LOWER LEVEL

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#### Sample Individual Student Report (ISR)



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Figure 1. Sample ISR - Lower Level

The *Independent School Entrance Exam* (ISEE) consists of verbal and quantitative reasoning sections, mathematics and reading comprehension achievement sections, and an essay that demonstrates a student's writing skills.

The purpose of this section of this book is to help students and their parents understand the information presented in the *Individual Student Report* (ISR). The ISR is a concise and useful summary of the student's performance on the ISEE. Different parts of the report provide information that may be used in the admission process to understand, compare, and evaluate student performance. A complete, actual sample ISR is shown on the previous page (Figure 1). Two parts of the report—the Test Profile and Analysis—are explained on the following pages.

#### **Test Profile**

The Test Profile near the top of the report provides information about the student's overall performance on each section of the ISEE, except the essay; an unscored copy of the essay is sent to each school for which the student requests score reports.

Figure 2 shows the Test Profile from the sample ISR in Figure 1.

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Carthan	Scaled Score	Percentile Rank	Stanine Rank			S	tanir	ne Ar	nalys	is		
Section	(760-940)	(1-99)	(1-9)	1	2	3	4	5	6	7	8	9
Verbal Reasoning	832	35	4				VR					
Reading Comprehension	821	34	4				RC					
Quantitative Reasoning	855	65	6						QR			

#### **Test Profile**

Figure 2. Sample Test Profile

Mathematics Achievement

The ISEE scores are reported in four ways in order to provide a comprehensive picture of the student's performance:

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- Scaled Scores
- Percentile Rank
- Stanine
- Stanine Analysis

The ISEE is a norm-referenced test. Each year, scores from students who took the exam over the prior three years are compiled by grade and used to calculate percentiles. These norms are based on independent school applicants in the same grade who have taken the ISEE during the past three years.

The norm group for this test is a very competitive group of students who are applying to independent schools. Therefore, a student is compared only to other students in the same grade who have applied to independent schools in the last three years. Given that this is a competitive group of students, a student's performance may be less than what it has been on other tests where the comparison group is less selective. Admission offices are aware of this difference in the norming populations and do not expect all applicants to be "above" the norm.

#### **Scaled Scores**

The scaled score is derived from the raw score—the number of questions the student answered correctly—but is more useful than the raw score because the scaled score has the same meaning regardless of which version of the test was used. ERB administers many different versions of the test each year. The scaled score takes these slight differences into account and allows ERB to report a score on a common scale that has the same meaning for all students, regardless of the version taken.

#### **Percentile Rank**

The percentile rank shows the student's standing when compared to other students in the norm group for this examination. The rank is based on scores obtained from all students in a given grade who have taken the test over the past three years. Percentile rank scores range from 1 to 99. A percentile rank of 83 on Mathematics Achievement, for example, as depicted in Figure 2, indicates that the student scored as well as or better than 83 percent of all students in the norm group and less well than 16 percent (out of a total of 99 percentile points).

Small differences in percentile ranks on different tests may or may not represent significant differences in performance on those subtests. For this reason, these percentiles are further categorized into stanines.

#### Stanine

Stanines divide the distribution of performance into nine differently sized groups. Stanines 4, 5, and 6 in the center of the distribution represent the middle 54 percentile points, whereas stanines 1-3 and 7-9 represent the bottom and top 23 percentile points, respectively. The entire range is provided below:

Percentile	
Rank	Stanine
1-3	1
4-10	2
11-22	3
23-39	4
40-59	5
60-76	6
77-88	7
89-95	8
96-99	9

#### **Stanine Analysis**

The stanine analysis provides a visual snapshot of a student's performance across the four test sections. It is important to note that ISEE Stanine Analysis includes a shaded range around each stanine based on the actual stanine plus or minus one stanine. This shading accounts for the possibility that a student's score can vary if they take the exam again, even if their skill level remains the same. This accounts for the possibility that a student's score could vary if they take the exam again, even if their skill level remains the same.

When reviewing their ISR, a student can use the information in this section to compare their performance across the sections; for instance, in figure 2, the student can recognize that their performance in this test administration was strongest in the Math Achievement section. The student can then refer to the Analysis portion of their ISR to gain more insight into their performance by section.

#### **Analysis**

In the Analysis part of the ISR, each section score indicates the number of questions answered correctly, the number of questions answered incorrectly, and the number of questions omitted or not reached. Each section score is broken down by type of question, providing more specific information about a student's relative strengths and weaknesses.

Analysis		Legend:	+ Correct - Incorrect S Skipped N Not Reached
Section	# of Questions	Correct +	Answers
Verbal Reasoning			
Synonyms	15	6	* * * * *
Single Word Response	10	6	+ + + + + +
Phrase Response	5	3	* * *
Reading Comprehension			
Main Idea	3	1	H H H
Supporting Ideas	3	0	HHH
Inference	4	2	* - * -
Vocabulary	4	2	
Organization/Logic	4	1	
Tone/Style/Figurative Language	2	1	* -
Quantitative Reasoning			
Word Problems	35	21	- + + + + + + + + + + + + + + + + + + +
Mathematics Achievement			
Whole Numbers	5	3	+ + +
Decimals, Percents, Fractions	5	4	* * * * -
Algebraic Concepts	5	5	* * * * *
Geometry	3	3	* * *
Measurement	3	3	* * *
Data Analysis and Probability	4	2	- * - *

Figure 3. Sample Analysis

In the first column, each section is broken down into curricular areas and/or skills. The next two columns show the number of questions and the number the student answered correctly for each subsection. The symbols in the fourth and final column indicate whether the student answered each individual question in the subsection correctly (+), answered the question incorrectly (-), skipped the question (S), or did not reach the question (N). Questions coded S are those that appear to have been deliberately skipped by the student, since subsequent questions in the subsection were answered. Questions coded N are at the end of the section (not necessarily at the end of the subsection) and were not answered, perhaps because the student ran out of time.

For all levels, the left-to-right sequence of symbols in the fourth column reflects the order of the questions in the section. In general, questions in each section are ordered by difficulty, with the easier questions at the beginning and the harder questions at the end. This is not the case for Reading Comprehension, however, as questions in that section are placed in logical order as they relate to the associated reading passage. A student can use this information to further understand their relative strengths and weaknesses in their section and subsection performance. It is important to note that this is not the case for Reading Comprehension, as questions in that section are placed in logical order as they relate to the associated reading passage.

#### **Verbal Reasoning**

The Verbal Reasoning section includes 15 synonym questions and 15 sentence completion questions (10 single word response questions and 5 phrase response questions). The synonyms assess a student's vocabulary as well as his or her ability to understand relationships among words and subtle differences in meaning. In Figure 3, the student answered 9 questions incorrectly on the synonyms subsection. The student can glean from their performance that they were able to answer the easier questions at the beginning of this section but had difficulty once they were introduced to more difficult questions.

Sentence completion requires the student to successfully integrate information beyond the immediate context of the phrase/sentence and incorporate subsuming concepts and ideas presented in the text using syntactic and semantic cues.

#### **Quantitative Reasoning**

There are 35 multiple choice questions evenly distributed across the mathematical strands. This section requires the student to show an understanding of concepts by using logical reasoning, synthesis, skill, and comprehension. To solve a word problem, the student must invoke a rule and then apply it. In the example in Figure 3, the student answered incorrectly 14 of these items, with most clustered toward the middle or end, which signal that these questions are more difficult than those at the beginning of the section.

#### **Reading Comprehension**

The Reading Comprehension section has 20 questions: five questions for each reading passage. These include questions on main idea, supporting ideas, inference, vocabulary in context, organization, logic, and figurative language. The questions are listed in order as they appear on the test within each of the reading passage sections. For the other three sections of the test: Verbal Reasoning, Quantitative Reasoning, and Mathematics Achievement, the test is arranged so that easier items appear first and more difficult items appear later.

#### **Mathematics Achievement**

There are 25 items on the Mathematics Achievement section covering six skill areas. In line with a traditional notion of mathematics achievement, these items call for the identification of and solutions to problems requiring one or more steps in calculation. The student whose performance is depicted in Figure 3 seems to have good mastery of the concepts of algebraic concepts; decimals, percents and fractions; geometry; and measurement. The student appears to have some difficulty with whole numbers and data analysis and probability.

#### **Conclusion**

#### **Putting the ISEE in Perspective**

It is helpful to remember that students in more than one grade are taking a particular level of the ISEE. Therefore it is possible that some of the questions may seem particularly difficult to you because you may not have learned some of the concepts in school yet. Your score on the ISEE is compared *to only students in your grade*, and those students are probably learning about the same things that you are. In that case, good preparation for the test includes being attentive in school and keeping up with your class work and homework. There are no benefits to frantically reviewing materials at the last minute, and in fact, you will probably make yourself very anxious if you do this. It is more important to get a good night's sleep the night before and to have a proper breakfast. Remember that your ISEE scores are only part of the admission process. Schools also want to know about you as a person and what you can contribute to their school community.

We wish you the best of luck in your school search and hope that this book has been helpful in showing you what to expect on the ISEE. For more information, please visit ERB's web site at www.erblearn.org.

### **APPENDICES**



#### LOWER LEVEL

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## **Appendix A ISEE Content and Specifications**

The sample questions and practice tests represent actual questions from previous tests, as well as newly developed questions similar to what students will find on the current ISEE. As a result, students get the best examples of the kinds of questions and the approximate level of difficulty that they will find when they take the ISEE. The purpose of this appendix is to provide students and their parents with additional information about the ISEE.

#### Verbal Reasoning

Over the past century, academic and behavioral research have identified specific abilities that are relevant to academic performance and, therefore, can be used as predictors of academic success. Verbal reasoning and quantitative reasoning are among those abilities and are an integral part of the ISEE.

Verbal reasoning is the ability to reason, infer, and interpret words, sentences, and discourse in order to extract meaning and solve problems. The student must recognize relationships, make contrasts and comparisons, follow logic, analyze problems, and think critically about what is being asked or expressed. Item types that are often used for verbal reasoning include the following: extracting explicit information, following directions, inferring word or phrase meaning, determining main idea of text, analyzing similar and dissimilar concepts and situations, and evaluating strength and logic of arguments.

The Verbal Reasoning section of the ISEE is composed of two kinds of questions: synonyms and sentence completions. Both of these kinds of questions test the depth and breadth of the student's vocabulary, and both test reasoning ability in different ways. Synonyms focus more on word recognition and the ability to understand the relationships of other words and to discriminate among subtle differences in meaning. The reasoning function of synonyms takes place when the student must choose the word that is closest in meaning to the prompt word from among two or more related answer choices.

Sentence completion questions not only test vocabulary, but also measure a student's knowledge of words and their functions. The student must use both syntactic and semantic information within the text and identify cues within the given sentence and across sentences. The student will be required to successfully integrate information beyond the immediate context of the phrase/sentence and incorporate subsuming concepts and ideas presented in the text.

In the Lower Level forms of the ISEE, the sentence completion answer choices are single words or short phrases that complete a sentence fragment in the test item so the complete sentence has logical meaning. Sentence completions in the Middle and Upper Level forms are more complex.

The following table shows the total number of test items on the actual Verbal Reasoning section of the Lower Level ISEE.

#### VERBAL REASONING SECTION

Item Type	Number of Items
Synonyms	17
Sentence Completion: Single Word Response	11
Sentence Completion: Phrase Response	6
<b>Total Items for Verbal Reasoning Section</b>	34

Of the 34 total items, 30 are scorable items reported on the ISR, and 4 are unscored items that may be used on future versions of the ISEE.

#### **Quantitative Reasoning**

The Quantitative Reasoning section has the student show that he or she can do more than recall and recognize facts, definitions, and symbols; read a graph and compute using standard algorithms; or estimate answers to computation problems. The reasoning section requires the student to show an understanding of concepts by using logical reasoning, synthesis, skill, and comprehension. These questions ask the student to relate and integrate his or her knowledge of mathematics. They allow the student to show that he or she can apply that knowledge by interpreting data, solving application problems, estimating, recognizing patterns, and solving non-routine problems. The kinds of questions that are in the Quantitative Reasoning section are often called higher-order thinking problems.

Quantitative reasoning entails the ability to use numbers and numerical concepts in order to solve problems. Questions may ask the student to recognize and apply a required numerical operation; estimate numerical values; employ logic to determine what a particular problem entails; compare and contrast quantities; analyze and interpret data; analyze, compare, predict, draw conclusions, and summarize graphs; use reason to calculate the probability of events; understand concepts and applications of measurement; and know how to arrive at statistical solutions to given problems. Questions require the student to synthesize information, determine what is relevant (and irrelevant), select appropriate analysis techniques, and apply them. The emphasis is on the ability to reason and solve problems in a quantitative context. Actual calculations may or may not be required.

The Quantitative Reasoning section of the Lower Level ISEE consists of word problems that differ somewhat from traditional mathematics achievement items in that some of them require no calculation. To solve a quantitative reasoning word problem, the student must invoke a rule and then apply it. The emphasis is on rule generation, hence the absence of calculation in some items and the simplicity of calculation in others.

The following table shows the total number of items on the actual Lower Level Quantitative Reasoning section.

#### **QUANTITATIVE REASONING SECTION**

Item Type	<b>Number of Items</b>
Word Problems	38
<b>Total Items for Quantitative Reasoning Section</b>	38

Of the 38 total items, 35 are scorable items reported on the ISR, and 3 are unscored items that may be used on future versions of the ISEE.

A key aspect of all quantitative reasoning word problems is that all incorrect responses are based on logical errors, not miscalculations or other errors in form. Another feature of these problems is that they may contain irrelevant information. The rationale is twofold. First, in a reasoning item, part of the

problem is to sort the relevant from the irrelevant, just as a mathematician or scientist would do. Second, as students take additional tests in the future, such as college admission tests and other tests that include quantitative reasoning items, they will see more and more problems with irrelevant information. In one sense, the ISEE begins to prepare students for this experience.

#### **Reading Comprehension**

Texts of various genres are used to assess reading comprehension, e.g., narrative, expository, persuasive, or descriptive texts. Each genre presents features particular to it and may require that different reading skills be engaged to understand and interpret the text's meaning. For example, a persuasive passage will likely require the reader to follow the logic of a set of arguments, contrast counterpoints, and evaluate the opposing points of view. A narrative, on the other hand, may demand attention to detail and the sequencing of events.

Reading comprehension may be affected not only by text type, but also by question type. Questions may ask for straightforward comprehension of what is explicitly stated in the passage or may demand that the reader be aware of implicit ideas. The reader may need to infer, interpret, analyze, and/or synthesize information in order to arrive at a correct answer to a given question.

All ISEE Reading Comprehension test items are based on passages of varying lengths. For the Lower Level test, passage length varies from 300 to 600 words. The test items that follow each reading passage measure a student's ability relative to Main Idea, Supporting Ideas, Inference, Vocabulary, Organization/Logic, and Tone/Style/Figurative Language, as described in the NCTE strands.

#### Explanation of Strands in Reading Comprehension Section

- The *Main Idea* items assess the student's ability to look for an overall message, theme, or central idea in the passage.
- The *Supporting Ideas* items assess the student's ability to identify explicit ideas that support the main idea.
- *Inference* items ask the student to draw a conclusion from content not explicitly stated in the text. Inference items may ask the student to compare and contrast ideas, interpret or analyze text, and/or predict subsequent events or outcomes.
- *Vocabulary* items deal with word definitions within the context of the passage, usually in the form of "most nearly means."
- *Organization/Logic* items ask students to identify the sequence, pattern, relationship, structure, or summary of the passage.
- *Tone/Style/Figurative Language* items assess the student's understanding of mood, tone, point of view, and figurative language such as images, irony, and personification.

At the Lower Level, there are five passages in the Reading Comprehension section, each followed by five questions that relate to the passage. The five questions that follow each passage test the concepts described above.

The following table shows the total number of items in the actual Lower Level Reading Comprehension section.

#### READING COMPREHENSION SECTION

ISEE Strand	Number of Items Per Strand
Main Idea	3–4
Supporting Ideas	3–6
Inference	4–8
Vocabulary	4–8
Organization/Logic	2–4
Tone/Style/Figurative Language	1–3
<b>Total Items on Reading Comprehension Section</b>	25

Of the 25 total items, 20 are scorable items reported on the ISR, and 5 are unscored items that may be used on future versions of the ISEE.

#### **Mathematics Achievement**

Mathematics Achievement test items conform to the traditional mathematics achievement items that call for the identification and solution of a problem requiring one or more steps in calculation. Based on the strands of the NCTM, the items require calculations ranging from simple addition and subtraction (Lower Level) to second-year algebra (Upper Level). Item formats and rules for generating items are summarized below.

- Items measure knowledge of content area and academic skills.
- Items assess what mathematics the student has been taught and how much the student is able to do.
- Incorrect answer choices are based on process errors (e.g., miscalculations, using wrong operations, wrong formulas).
- Items have the following characteristics:
  - They are more concrete than abstract. They require application of standard mathematical rules in standard situations.
  - o They require knowledge of terminology.
  - o They require knowledge of procedures, as well as concepts.

The ISEE Mathematics Achievement section on the actual Lower Level test contains 30 items. The following table shows the skill areas and approximate number of questions testing those skill areas for the Middle Level Mathematics Achievement section.

#### MATHEMATICS ACHIEVEMENT SECTION

Skill Areas	Number of Items
Whole Numbers	4–7
Decimals, Percents, Fractions	4–7
Algebraic Concepts	4–7
Geometry	2–5
Measurement	2–5
Data Analysis and Probability	4–7
<b>Total Items on Mathematics Achievement Section</b>	30

Of the 30 total items, 25 are scorable items reported on the ISR, and 5 are unscored items that may be used on future versions of the ISEE.

The Mathematics Achievement section has a direct connection to what the student is learning or has learned in mathematics in school. As stated previously, since each level is given to students in more than one grade, it is possible that some of the questions may seem difficult because the student has not yet learned some of the concepts. This is particularly true of the Mathematics Achievement section. But the student's ISEE score is compared only to students in the same grade who are also applying to independent schools, students who are probably learning about the same things in school.

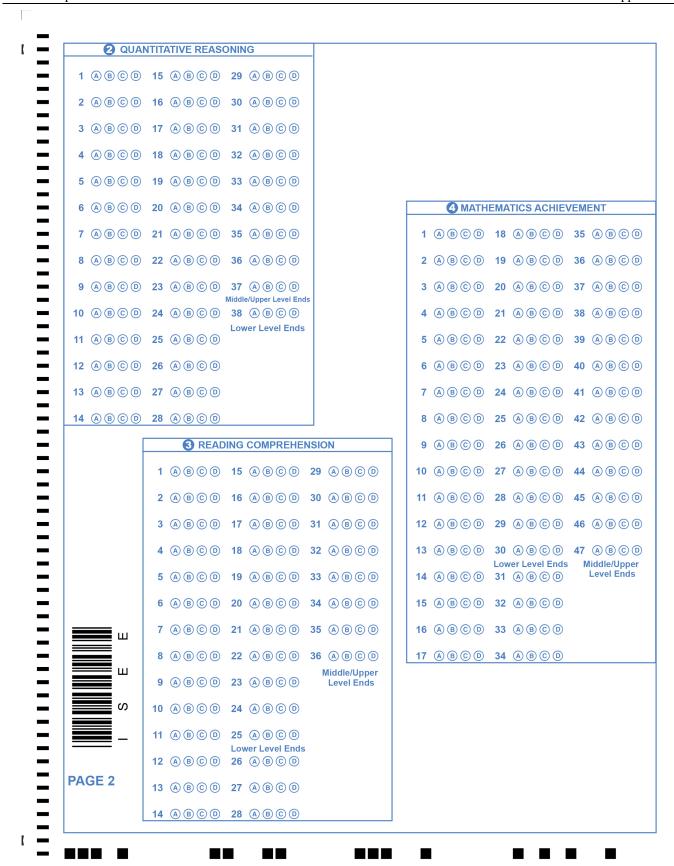
#### **Essay**

The essay prompts on the ISEE were created to be consistent with the prompts on previous editions of the ISEE. All prompts are free of bias, global in scope, and representative of a wide variety of topics. The Lower Level prompts ask students to write an essay that is of interest and relevant to the experiences of students at this age. The essay will give further insight into what is important to the applicant.

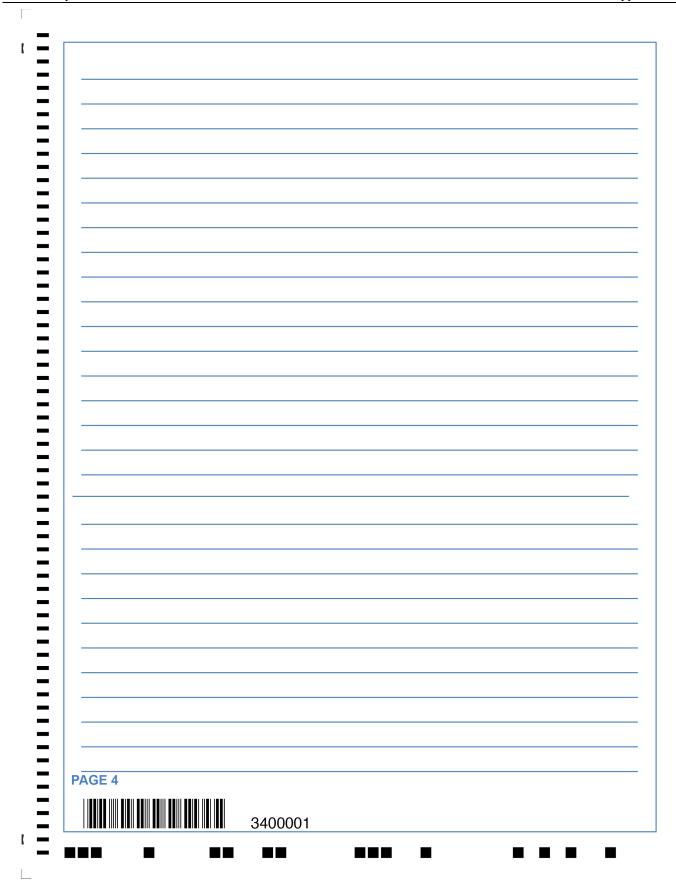
## **Appendix B Answer Sheet**

Use the answer sheet and pre-lined pages in this appendix for the Practice Test. You may want to photocopy the answer sheet to make it more convenient to use during the Practice Test.

Test Site:  Room:  EXAM LEVEL LOWER ① MIDDLE ⑩ UPPER ①	FORM  0 0 0 0 1 1 1 2 2 2 3 3 3 3 4 4 4 6 6 6 6 7 7 7 8 6 6 6 9 9 9	PLACE TH	Use a #2 or HB Use a ballpoint Make dark mark Erase cleanly a Make no stray r Do not fold or co	RKING INSTR B pencil only on p pen for your ess ks that complete iny mark you wis marks on this for rease this form.	ages 1 and 2. say on pages 3 and 4. sly fill the circle. sh to change. m.  ICORRECT MARKS
ADMINISTRATOR TESTING WITH ACCOMMODA	RS ONLY		If the barcode lab		damaged, write the above.
Bubble in the first four letters	LAST IDENTIFIC. NAME NUMBI	ER		BAL REASONI	
of your last name.			A B C D 15		29 A B C D
	0 1 2 3 4 5 6 7 8 9 0 1 2 3 5 6 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 3 5 7 8 9 0 1 2 5 7 8 9 0 1 2 5 7 8 9 0 1 2 5 7 8 9 0 1 2 5 7 8 9 0 1 2 5 7 8 9 0 1 2 5 7 8 9 0 1 2 5 7	10 0 3 3 3 3 3 3 3 3 3 3 3 3 3 4 4 5 5 5 6 6 6 7 7 7 8 8 9 9 10 11 12 13	A B C D 18 A B C D 20 A B C D 21 A B C D 22 A B C D 23 A B C D 24 A B C D 25 A B C D 26 A B C D 27	( A B C 0	30 A B C D 31 A B C D 32 A B C D 33 A B C D 34 A B C D 34 A B C D 35 A B C D 36 A B C D 37 A B C D 38 A B C D 39 A B C D Middle/Upper Level Ends



TUDENT NAME	GRADE APPLYING FOR
	to write the final draft of your essay on this sheet.
You must write	your essay topic in this space.
se specific details and examples in your response.	
	PAGE 3
	PAGE 3



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